

A photograph of a boat's wake on the ocean. The water is dark blue with white foam from the wake. In the background, there are mountains under a hazy sky. The text is overlaid on the image.

# Clew Bay Marine Forum Ltd

Established Nov 2000

A local marine initiative  
Adopting a broad & flexible outlook

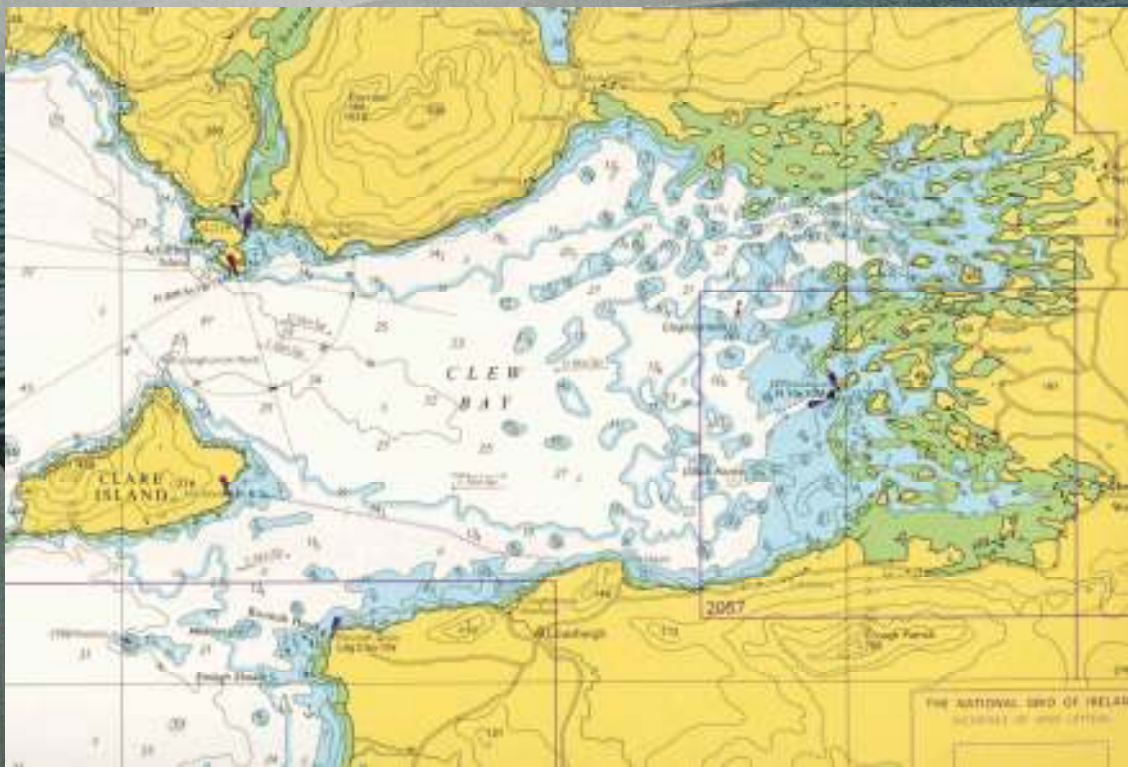
Speaker: Niall O'Boyle

# Bay Management – local input

- Who we are & why we were formed
- What we do
- Offer some suggestions
- Tell you about our involvement in the KEYZONES project
- And leave you with some questions to ponder

# Clew Bay

Area of activity




## Why CBMF?

- Founded because local people felt that Clew Bay wasn't being looked after
- Multiple distant bodies involved in decision making – with minimal local presence & at times, poor decisions.
- Marine users formed CBMF to liaise with Govt Depts, Authorities, Agencies & Institutions to identify & assist in aspects of local bay management
- Commenced work in 'gap' areas
- Sectoral bodies subsequently took responsibility for many of the gap areas that were identified

## Objectives

- Retention of 'A' classification water by continued water monitoring of existing and potential sources of pollution
- Facilitate a broad-based range of marine activities and act upon sustainable development opportunities
- Support safety & training
- Encourage local input of fishing, aquaculture, tourism, leisure and marine groups into Integrated Coastal Zone Management policy for the area



## What is Integrated Coastal Zone Management (ICZM) *Definition*

ॐ *"A continuous and dynamic process that unites government and community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the protection and development of coastal systems and resources."*

# Initial Participants

## *Local groups*

- CB Oyster Co - Op
- CB Potfishermen
- Shellfish farmers
- Finfish farmers
- Manufacturers
- Achill Co - Op
- Clare Isl. fishermen
- Island groups
- Marine services
- Processors/Buyers

## *Agency & NGO*

- DoCM&NR
- BIM
- Marine Institute
- Mayo Co Co/CDB
- NUI Galway
- Fisheries Boards
- Dúchas
- FSAI
- EPA
- IFA

## Activities

- Sea service provider to local marine users
- Sea service provider to marine state agencies and authorities
- Provide liaison between local marine sectors
- Provide liaison between local marine sectors and state agencies
- Represent & focus Clew Bay issues at local and national level
- Project management and backup

## Liaison Services

- Annual seminar
- Hosting and attending industry and agency meetings
- Attendance & presentations at seminars, workshops & conferences
- Submissions on specific local issues such as sewage and landfill leachate discharges
- Submissions to local and national policy documents
- Assistance with policy implementation
- Navigation, harbour, pier & marina development submissions
- Submission of ICZM discussion documents

## Additional Projects

- *Past*
- Gigas oyster bottom growth trials
- Viral and bacterial risk assessment study
- Lobster restocking and artificial reef trials
- Scallop settlement and growth trials
- BOHABS
- INTERREG IIIC – ICZM
- AQUAREG - ICZM
- REDRISK – viral risk assessment
- *Current & Future EU*
- KEYZONES – biological carrying capacities
- SPIES – DETOX – HAB prediction & toxin depuration

## Environmental sampling programme



- Many of the samples need to be collected by boat
- Also avoids tidal fluctuations for shellfish
- Weekly boat sampling enables an excess capacity for additional statutory monitoring & additional research.

# Routine monitoring sites



## Sampling Programme

Identifying samples required on a given week	Weekly
Phytoplankton Shellfish Biotoxins	Weekly
Quality of Shellfish Waters	Monthly
E-Coli Bacterial Classification	Monthly
Sentinel site shellfish samples	Monthly
Provide Temp Sal & O2 data for BIM website	Weekly
Download temp data loggers for MI Website	Monthly
Liaison with multiple Govt agencies in relation to Sampling Programme	Weekly
Co-ordinating sample destinations, labelling, packaging and posting.	Weekly
Replacement and repairs to sea sampling sites	As required
Ensuring availability of samples, collection of samples & deployment to multiple sea sample sites	As required
Cleaning & maintenance of equipment. Ensuring supplies of packaging, labels and chemicals	Weekly

# Scientific aspects – studies, surveys & monitoring data sets

## *Data sets*

- Oyster Co-op. Water, larvae, bonamia.
- BIM Quality of Shellfish Waters, temp, salinity, ph, BOD, O2, ecoli, heavy metals.
- MI, Phytoplankton, biotoxin, bacterial, viral
- Finfish. Water, temp, sealice, benthos.
- EPA, MI & Fishery boards. Fresh water inflows – water nutrient levels
- MI, Met Eireann, Climate variables, rainfall, temp, sunshine hrs, etc.

## *Studies*

- Hydrographic models 90, 00, 02
- Wave study 00
- EIS. 90, 98/99, 00, 01, 02
- Viral and bacterial contamination Risk Assessment Study
- LIDAR surveys of Westport Bay 02, Newport Bay 03 Lough Furnace 03
- NUI Bathymetry, Furnace, Feeagh, Achill Beg, Dillisk Rocks
- Hyperspectral imagery of NE Clew Bay
- SAC Broad scale mapping, Hydro acoustics, Flora & fauna, benthic grab and diver sampling
- Clare Island Study 2002
- Native oyster bed mapping
- Aquaculture site mapping
- ASP scallop study.
- Bonamia data
- Lobster stock enhancement and stock survey
- Salmonoid habitat enhancement
- Genetic interaction between wild and introduced salmon

## Focus on Bay Management – how?

- Establish adequate funding for lead organisation
- Co-ordination & integration of agencies to determine what statutory science is required in a local area
- Identify what additional uses statutory science can have
- Determine the range of management decisions that will need to be made to effectively manage each bay ie: uses, water quality, flora & fauna, infrastructure
- Determine what additional science & studies will be required to underpin the required range of management decisions
- Establish a 'Local Bay Management Data Template' to focus research towards what an area needs & marry that with what the researcher wants to do
- Establish links with marine service providers & put data collection programmes in place
- Utilise local knowledge resources



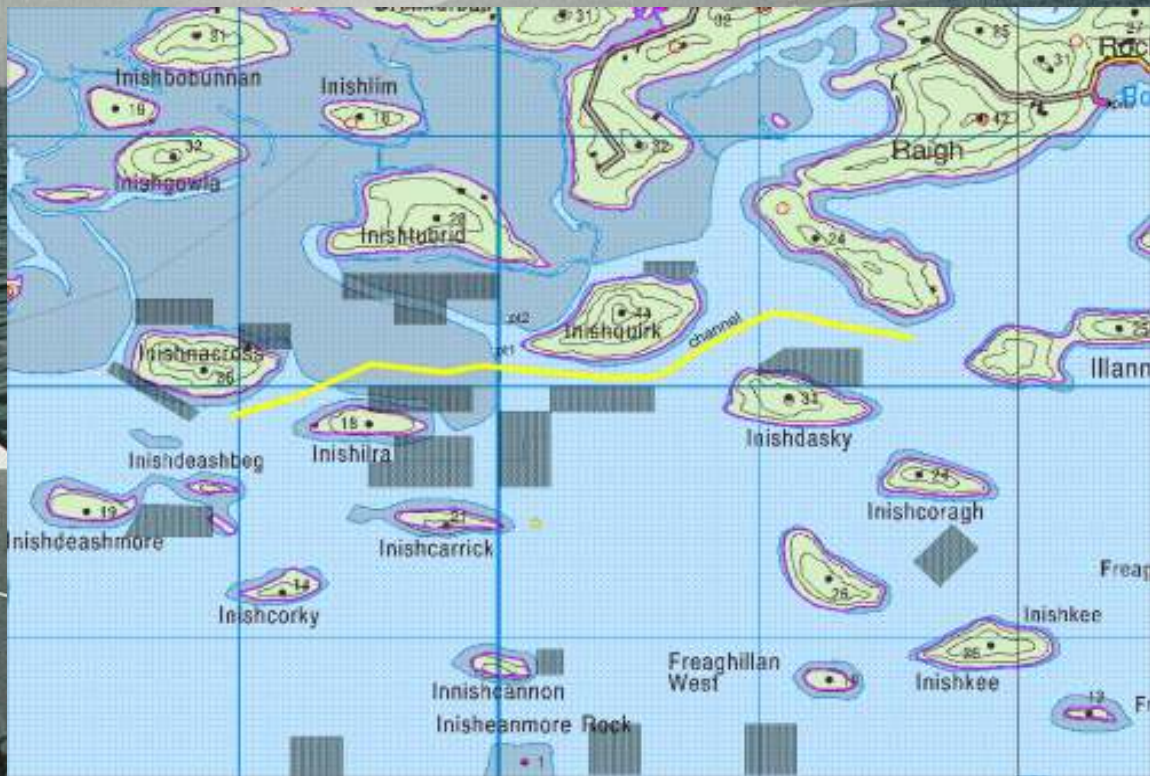
## Scientific aspects – Predictive Management Model

- Valuable information some of which has a 1 time only use & is archived by various agencies
- Data represents pieces of puzzle which can be compiled to provide a clearer picture of the Bay.
- Review & assemble existing data
- Identify additional data requirements
- Enable enhanced co-ordination of sectoral management activities
- Develop scientific model to underpin a predictive bay management strategy

## KEYZONES Project Data gathering

- Whilst CBMF has been keeping track of who has what, data fragmented amongst Depts, Agencies & Institutions
- Historical data lacking in comparison with our EU partners
- Occasional snapshots from past projects
- Standardisation / compatability of data formatting
- Difficult to track down – changes of staff etc
- Ownership & licensing issues
- Poor co-operation from agencies in supplying data gathered at the taxpayers expense unless paid for

# Tiernaaur Oyster area



# Inishlaughill Mussel area



17.07.2006



# KEYZONES Sampling



- Water & environmental sampling stations & depths
- 3 locations. Clare Island, Tiernaur, Inishlaughil
- Total of 10 depths
  - CI. 0m 2m 5m 10m 20m 30m
  - TR 0m 5m
  - IL 0m 5m
- Particulates, nitrite, silicate, ammonium, chlorophyll

# Environmental Parameters

- O<sub>2</sub>, Temp, Salinity
- Weather & tidal conditions
- Lund tube  
Phytoplankton samples



# Shellfish growth analysis

- 2 control sites containing seed & year old oysters & mussels in normal growing conditions
- Monthly sample analysis
  - Wet weight
  - Shell weight
  - Wet flesh weights
  - Dry flesh weights



## Preparation for analysis

- 2 x 1 litre water sub samples filtered & stabilised
- 1 x 500ml sub samples acidified
- 1 x 500ml sub sample
- Packed & posted in cool box to C-Mar for analysis



## Existing management

- Bodies with responsibility for & interest in an area:- DCMNR, Dept of Environment, NPWS, CoCo, MI, BIM, EPA, Fisheries Boards, FSA, others & multiple sub divisions of the above
- Responsibilities primarily activity based
- Responsibilities not focussed towards the needs & activities of the area as a whole
- The achievement of real local bay management would entail a refocused integrated approach from the responsible bodies
- CBMF continue to work in 'gap' areas

## 'Gap' areas

- When can the ICZM strategy due in Feb 2006 be expected?
- Still interest on the ground in ICZM, when will this be matched & supported by government?
- When will ICZM EU projects make funding available to practitioners & bottom up initiatives?
- CBMF have taken the lead in co-ordinated environmental sampling, who will ultimately be responsible for water quality & ensure its upkeep?
- How accurate will carrying capacity models be & what type of management structures will make use of the models?

# Thanks

- BIM. In particular Terence O'Carroll for all his support over the years & Mary Hannan for all of her hard work on the ground
- Our chairman Michael Mulloy & all of the directors, past & present who have given up their free time to be part of this initiative
- Our KEYZONES co-ordinator Dennis Gowland who put this industry led consortium together
- All of our Keyzones partners in particular John Coleman who put a huge amount of effort into co-ordinating today's event
- All of today's speakers that have helped to make the conference an interesting & informative day
- AquaTT for their efforts in organising this event
- And the management & staff of the Hotel.
- Many thanks to you all for making the effort to attend

# A shared resource

