CoastNet
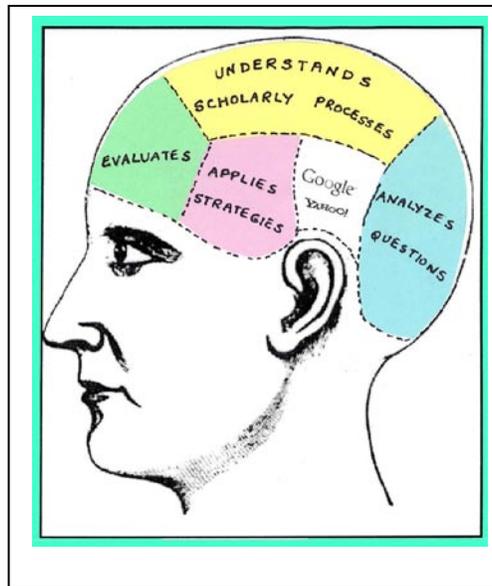
COASTAL LITERACY

a framework for coastal knowledge

and understanding

contents

1. What is Coastal Literacy?

'Coastal Literacy' is a new concept that CoastNet is developing and promoting, based on CoastNet's considerable experience in coastal management and of good practice internationally. Coastal Literacy is an education and information programme to encourage people (the public, politicians, policymakers and practitioners) to understand and learn more about coastal change and to enable them to participate meaningfully in coastal decision making. A coastal literate person:

- **Understands** the Essential Concepts about the functioning of the coast, encompassing social economic and environmental aspects;

- Can **communicate** about the coast in a meaningful way;

- Is able to make informed and **responsible decisions** regarding the coast and its resources.

Between 2008 and 2010, working with the East of England Coastal Initiative and through the European funded IMCORE project on adaptation to climate change, CoastNet recognised the considerable knowledge gap between the public and policy makers as a critical failure in the relationship between the citizen and the State.

This knowledge gap is a barrier to democratic decision-making which removes a critical check to the "inexorable logic" of the policy process, that of public opinion. Knowledge enables debate and engagement in policy, the lack of it encourages widespread complacency until it is too late - when decisions have been made that the public find unpalatable. We have seen that the ensuing conflicts cost the taxpayer dearly as adversaries fight in the courts, in public enquiries or in local Councils and ever more costly reports are commissioned to answer ever more polarised questions.

To overcome this barrier is a significant task, not least because people's opinions differ widely on what is accepted knowledge and what is opinion. Consistency is required in communication of knowledge, consistency across the country, across disciplines and across stakeholders. It follows that to provide such consistency a common reference point is required. It is for this purpose that CoastNet proposed the development of the **Coastal Literacy Framework**. Funding from Defra in 2010/11, through the Chichester Pathfinder project and the Defra Customer Project Fund, has enabled the initial development work to take place.

There are parallels in other fields, where government has identified the need for public education to support the achievement of public policy objectives. It is notable that there are **long-running information campaigns** in recognition of the constant need to educate new generations. Keep Britain Tidy is a good example (http://www.keepbritaintidy.org/Campaigns/Default.aspx), but there are others in the fields of public health, safety (eg stop, look and listen for crossing the road http://www.dft.gov.uk/think/education/early-years-and-primary/media/stop-look-listen/) and energy conservation (eg http://www.decc.gov.uk/en/content/cms/what_we_do/consumers/saving_energy/saving_energy.aspx) . These are simple messages by comparison with those needed for sustainable coastal management, for example regarding adaptation to climate change, and it is time for a dedicated education programme to support coastal policy development and implementation.

2. **Coastal Literacy Framework**

2.1 Aims and inspiration

The aim of the Coastal Literacy Framework is to provide the basis for a balanced education and debate about the coast through the achievement of an improved knowledge and understanding of the coast. It is also expected to be transferrable, so that it can be used in different places and flexible so that it can be used in different contexts.

In the USA the concept of Environmental Literacy has been promoted across a range of themes. Ocean Literacy is probably the most developed, and has provided much of the inspiration for this work. It is used to provide a balanced and broad base of knowledge to school and college students, and is supported by a large network of educators and others who maintain and update the framework, following its initial development over a period of about 6 years.

The Ocean Literacy Framework has a structure based on seven principles, each having a tier of concepts and topics beneath as illustrated in figure 1. More detail of the structure of the Framework is provided in Annex 1.

The Framework recognizes that different audiences (different aged students in this case) require different levels of knowledge. Thus the framework caters for these needs, each concept and topic developed in different levels of detail.

The framework also recognizes that knowledge does not stand still, and a **network** of users and specialists underpins its further development.
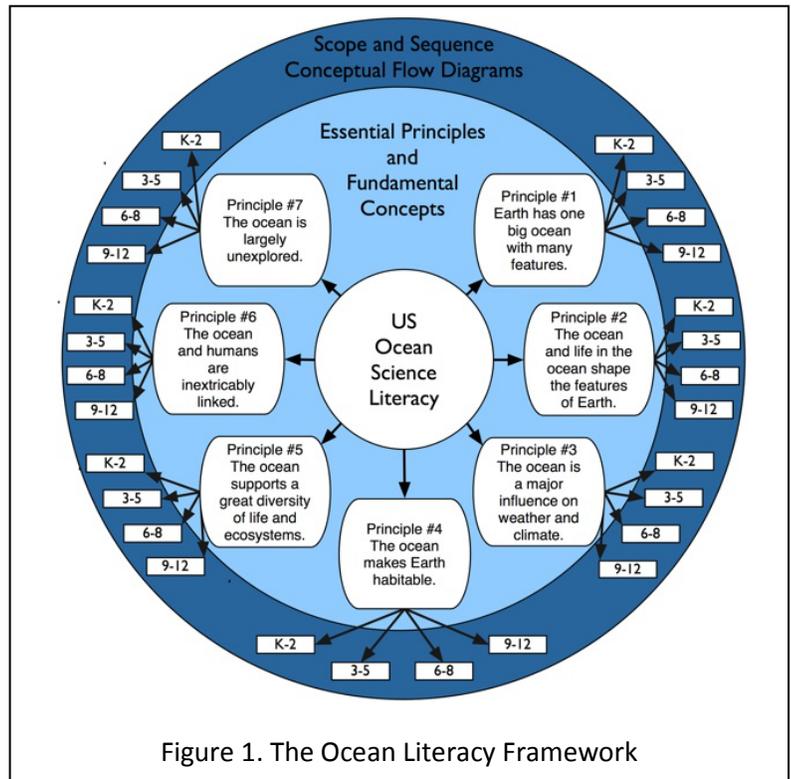

Figure 1. The Ocean Literacy Framework

2.2 Development Process

Defra pathfinder funding enabled CoastNet to appoint a project officer to take forward the development of the Coastal Literacy Framework. This work involved the following stages:

What	When
Stakeholder identification and research	June 2010
Knowledge & perceptions survey & research of best practice, other regions, benchmarking etc.	July – August
Knowledge & perceptions report writing	Sept/Oct
Production of short film 1 - Celebrating the Manhood Peninsula coastline plus 4 x 1 minute films by young people	Oct
Production of short film 2 – aimed at the public exploring coastal change, flood risk, adaptation and climate change	Nov
Production of short film 3 – aimed at public sector – educating civil servants about community needs and the difficulties of participating in coastal decision making	Dec
Expert panel – 4 meetings – defining the Coastal Literacy concepts and definition of 2nd educational resource (leaflet)	Oct, Nov, Dec, Jan
Production of leaflet e.g "Coastal Management jargon buster" or similar	Feb 2011

The Coastal Literacy Framework as it currently stands was developed through the advice of an expert group. This group was drawn from residents and stakeholders of the Manhood Peninsula in West Sussex, UK. In the course of three workshops designed by CoastNet the group considered what it was important for people to know about the coast and organized this information into four 'families of concepts'. More information about the group and its programme of work can be viewed at http://coastalliteracy.wordpress.com/expert-panel/

In parallel to this work a **knowledge survey** was carried out of local people and stakeholders to understand current levels of knowledge amongst the public. This report can be downloaded from http://coastalliteracy.wordpress.com/report/ . It suggested a surprisingly high level of awareness (over 70%) regarding the Coast Defence Strategy, but also a high level of inconsistency regarding a whole range of related knowledge, such as who is responsible, links to climate change, opportunities and so on.

CoastNet also undertook a survey of what **educational initiatives** were already developed regarding coastal change and how well they met the need for balanced and broad-based understanding. Most of those that are available present a pro-environmental protection perspective, and few explore other issues. Download the report at http://coastalliteracy.wordpress.com/education-survey/ . There is certainly nothing existing that provides a broad-based, balanced learning framework in the spirit of Coastal Literacy.

2.3 Families of concepts

CoastNet have identified four families of concepts, and within each a collection of related concepts and topics. These have been developed and revised by CoastNet with the help of an expert group of local people in our pilot area, the Manhood Peninsula in West Sussex, UK.
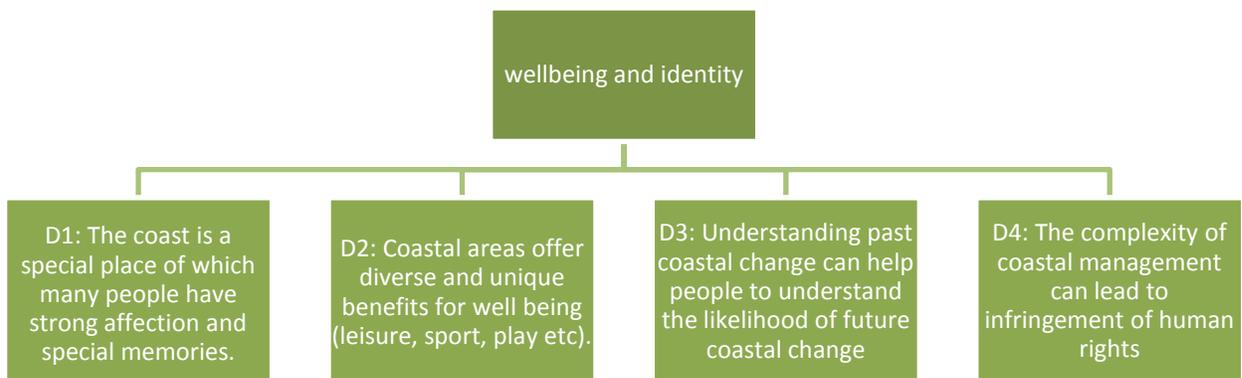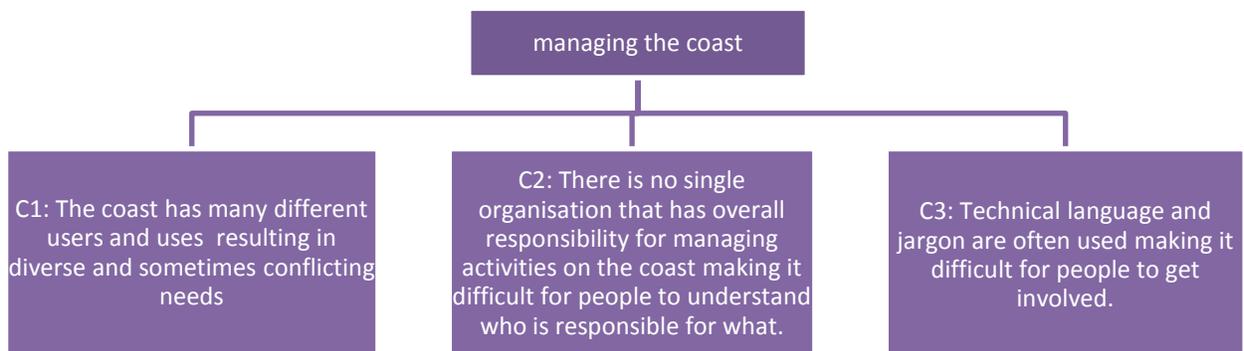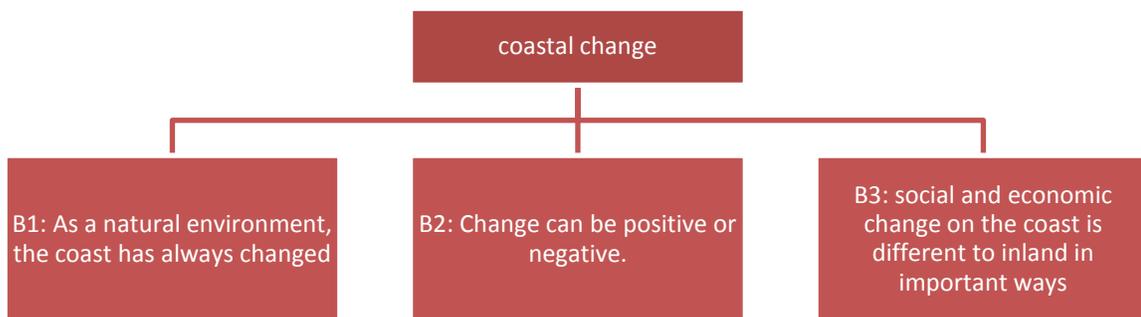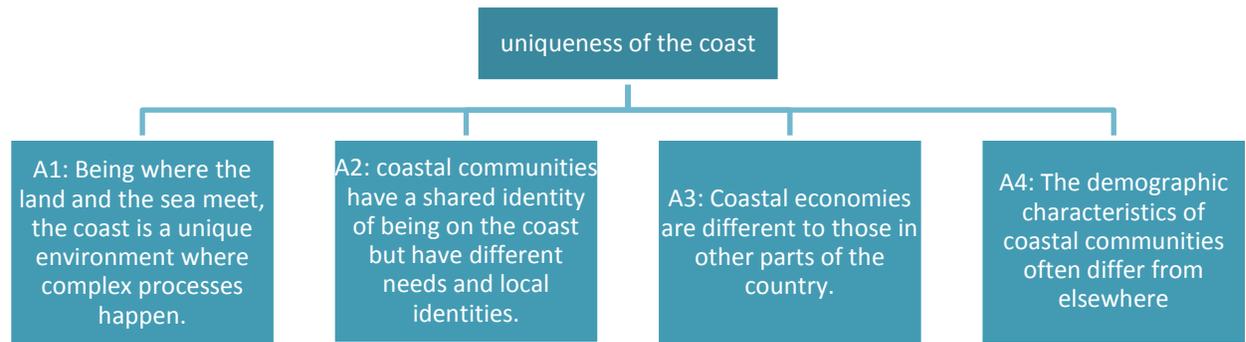

The importance of this structure is that CoastNet, through much research and internal debate have identified four key elements that define the coast from a management perspective. Thus:

1. The coast is unique, and different from either the land or the sea on their own. **2.** It is subject to constant change, indeed this is one of its defining features where many natural habitats are concerned. But social and economic change also are key driving forces for management. **3.** Which brings us to the third element, regarding management of the coast: why is it needed, who does it and why is it difficult. **4.** Finally, we come to those who live and work on the coast and their communities. The messages are around respecting, through sound management, the quality of life, the enjoyment of heritage, and the sense of identity of coastal communities.

This unique approach, CoastNet believes, brings the balance that is necessary to develop solutions to resolve the complex conflicts that characterise the management of the coast. Thus a wider appreciation of the context of coastal change, a more comprehensive understanding of social economic and environmental issues, and a better knowledge of institutions and their roles and responsibilities, will enable more balanced debate and provide a better basis for conflict resolution and democratic policy-making.

Within each of these families are a set of concepts that together define the essential knowledge embodied within the family, and which point the way to a range of topics for detailed study. The concepts in each family are set out in the four diagrams below.

2.4 **Coastal Literacy Concepts**

uniqueness of the coast

A1: Being where the land and the sea meet, the coast is a unique environment where complex processes happen.

A2: coastal communities have a shared identity of being on the coast but have different needs and local identities.

A3: Coastal economies are different to those in other parts of the country.

A4: The demographic characteristics of coastal communities often differ from elsewhere

coastal change

B1: As a natural environment, the coast has always changed

B2: Change can be positive or negative.

B3: social and economic change on the coast is different to inland in important ways

managing the coast

C1: The coast has many different users and uses resulting in diverse and sometimes conflicting needs

C2: There is no single organisation that has overall responsibility for managing activities on the coast making it difficult for people to understand who is responsible for what.

C3: Technical language and jargon are often used making it difficult for people to get involved.

wellbeing and identity

D1: The coast is a special place of which many people have strong affection and special memories.

D2: Coastal areas offer diverse and unique benefits for well being (leisure, sport, play etc).

D3: Understanding past coastal change can help people to understand the likelihood of future coastal change

D4: The complexity of coastal management can lead to infringement of human rights

2.5 Coastal Literacy topics

CoastNet has identified 14 concepts, each of which will be 'home' to a number of topics.

CoastNet have previously developed a comprehensive topic database for coastal management, the **CoastNet Subject Tree.** This was done from a perspective of sustainable development and integrated approaches.

The CoastWeb library (http://library.coastweb.info/view/subjects/subjects.html) is underpinned by a comprehensive coastal **subject tree** developed by CoastNet. The same subject tree also forms the basis for the organization of information in the Coastal Wiki (http://www.coastalwiki.org/coastalwiki/Main_Page), developed with European Commission research funding.

The coastal literacy concepts should link across into this framework at various levels, enabling access to supporting knowledge. There is an important difference however. Whilst the CoastNet subject tree provides a home for data, information and knowledge, the Coastal Literacy framework is specifically designed for the communication of the knowledge and understanding which is the sum of analysis and experience (see below for definitions). Furthermore, it is designed to present a balanced set of knowledge and understanding across a breadth of coastal issues as the basis for sustainable development. As a framework it does not purport to store all knowledge but will guide people to access a balanced knowledge base to suit the specific context.

Already the individual headings in the subject tree are equivalent to the topics in the Coastal Literacy Framework. For example,

> **CONCEPT A1:** Being where the land and the sea meet, the coast is a unique environment where complex processes happen.

TOPICS:

However, not all topics map across so neatly. For example:

CONCEPT B3: social and economic change on the coast is different to inland in important ways

This concept encompasses topics from both the subject areas of 'coastal human activities' and 'coastal issues and impacts'.

There are also gaps and inconsistencies. For example:

CONCEPT B1: As a natural environment, the coast has always changed
This concept encompasses risk management, an approach that is not explicitly represented in the subject tree.

CONCEPT D4: The complexity of coastal management can lead to infringement of human rights

Community engagement is an important topic for this concept but it is not explicitly represented in the subject tree, it being apparent as a cross-cutting theme instead. Similarly, some broader issues, such as Human Rights, are not represented in the subject tree. Their coast-specific aspects should be represented.

Thus, it is evident that further work is required to accurately and comprehensively link the Coastal Literacy Topics to the CoastNet Subject Tree headings to ensure compatibility and to avoid duplication of effort through the production of a new subject tree.

3. From information to understanding

3.1 This is the really important bit

Signposting people to sources of information via topic headings, as presented above, does not achieve the fundamental objectives of imparting a balanced level of knowledge and understanding to people.

The approach *does* direct people to ***information and knowledge***, but CoastWeb (an archive) and the Coastal Wiki (a database of summary articles) are not comprehensive in their body of information and nor is any other one source. (See Box for more about these resources.) It is therefore important that the user of the coastal literacy framework receives an overview that contextualizes the topics and links them together such that they together illustrate the concept. It is this element that provides the ***understanding*** that we seek and which will then enable the user to seek out further knowledge and interpret that with a **Coastal Literacy mindset** rather than a narrow or polarized mindset.

This is as much a communications issue as an educational one and it is useful therefore to consider key messages, audiences, and communications approaches and tools. All of these matters are addressed in the remainder of this report.

3.2 How can that understanding be communicated?

It is relatively easy to identify some key criteria for the approach to communication that is necessary:

- Communication must be accessible to many, respecting differing levels of knowledge
- It must cost-effectively reach a wide audience
- It must be engaging, respecting that people are not compelled to read or look at this material
- It should not be off-putting (i.e. too long, too complicated, too boring)

These criteria lead us towards:

- Basic level of information (initially at least), jargon free
- Internet delivery
- Use of multimedia (film, sound, text, animations, interactivity)
- Delivered in 'bite-sized chunks'.

CoastNet are currently leading the development of an online resource for adaptation to climate change in coastal areas which embodies many of these elements, as part of the EC Interreg funded IMCORE project (www.imcore.eu). It serves as a useful illustration of the approach which could be taken to providing the core resources for delivery of Coastal Literacy. It will be available from September 2011 at www.coastaladaptation.eu.

The key features of relevance are:
- Providing effective approaches to learning
- Specifying learning outcomes (what should people know and understand/core communications messages)
- Providing learning resources that introduce topics and **guide** people through the information resources available

3.2.1 Providing effective approaches to learning

Learning by doing: How do we learn? It has been said that we learn 10% of what we read, 20% of what we hear, 30% of what we see, 50% of what we see and hear, 70% of what we discuss with others, 80% of what we experience and 95% of what we teach someone else. Whether or not this is strictly correct it serves to illustrate the effectiveness of different approaches to learning. In particular it highlights the value of multimedia approaches and of interactivity in the process of learning.

The internet is increasingly used to provide training, or **e-learning**. It provides the opportunity to provide well-designed, multimedia learning resources to millions at a fraction of the cost of other approaches.

Some e-learning options and examples: Bearing in mind the criteria set out above here are presented the three main options selected by CoastNet and examples for delivery of Coastal Literacy e-learning resources:

1. **Written learning resources** that are made available online to download or read module by module with written exercises. E.g.http://www.coastlearn.org/

BENEFITS: Easiest and cheapest option once all the content is there.

DISADVANTAGES: (1) Less engaging and more time consuming, (2) It is a model that tends to be based on sharing knowledge rather than building capacity to respond to specific problems and "How to's...", (3) It will be competing with an overwhelming number of written publications that are available on the internet about adaptation. (4) It is generally more suitable as reference material

2. **Traditional e-learning** (as most universities or big organisations), using a Learning Management System. The most used by far is open source Moodle http://moodle.org/sites/ but there are many systems tailor-made for specific organisations. Most "e-learners" will have had experience of this approach. Two coastal examples can be viewed at http://openlearn.open.ac.uk/mod/oucontent/view.php?id=397948 http://www.csc.noaa.gov/training/survival-skills.html

BENEFITS: Is widely used in education, and there is a lot of experience in its development, regular e-learners are very familiar with the layout. Social media, videos, and nearly any feature you could wish for could be integrated

DISADVANTAGES: Needs to be tailored to the needs of the audience, which is costly in terms of time and resources. Generally used for courses with an instructor and users need to log in.

3. **Blended e-learning** A mix of the above. For example, this approach has been chosen for www.coastaladaptation.eu as an open e-learning resource which will include rapid e-learning modules (as interactive presentations). Rapid e-learning comprises short modules (up to about 20 minutes to complete) which are quick and easy to both produce and to digest. With the modules being guides to other resources it provides an entry point or gateway for users, who will either (1) browse through the contents to understand the basic steps of the IMCORE approach to developing an adaptation strategy (for stakeholders or decision makers) OR (2) use

it to be led through the process and signposted to the various tools and resources (for practitioners). A similar model would be suitable for delivery of Coastal Literacy.

BOX 1   FURTHER INFORMATION ON E-LEARNING AND RAPID E-LEARNING

Rapid E-Learning has the following specificities:

- Courseware which can be developed in less than three weeks (once content is ALL there)
- Subject Matter Experts (SMEs) act as the primary development resource
- A well-known tool (e.g. PowerPoint) or user-friendly templates form the starting point for courseware
- Simple assessment, feedback and tracking are usually provided
- Media elements which enhance learning but do not create technology barriers may be included (e.g. voice)
- Learning modules can be taken in one hour or less, often in less than 30 minutes.
- Synchronous (scheduled or live) and asynchronous (self-paced) models may be utilized.

BENEFITS: It is faster to develop than a traditional e-learning platform, more attractive and faster to browse through. Information is chunked and layered so that users can access as much or as little as they need.

DISADVANTAGES: The versatility can encourage use of expensive and "flashy" approaches, at a cost. However, simple and straightforward designs can be equally effective, where content is distributed in a powerpoint format with interactive elements designed to engage the user and to improve the effectiveness of the learning experience.

NOTE: This is a more innovative approach and CoastNet haven't found any examples of rapid e-learning from our field of expertise. It has been mostly used for building skills and updating knowledge of employees of governments and large companies, although there are recent developments in the third sector. It is not usually focused on educating but rather on filling a knowledge gap, or for giving a solution to an organisation that needs to cope with a specific need. Some examples are:

http://www.ryainteractive.org/course/view.php?id=491
http://www.articulate.com/community/showcase/
http://www.kineo.com/case-studies.html

3.2.2 Specifying learning outcomes

The need to provide an overview of concepts and topics was identified earlier in this report. This is really about creating a uniform perspective of the coast and its issues – a Coastal Literacy Mindset. Of course, there are limits as to what extent this is achievable, but that does not make the attempt any less useful. If it brings about a convergence in people's points of view then it is a worthwhile exercise.

Reference has also been made elsewhere in this report to the communications task that is fundamental to Coastal Literacy. The communications objective is to create a coastal literate generation - people with coastal literacy mindsets. This potentially smacks of brainwashing and it is important therefore that the coastal literacy framework is an open, transparent and inclusive process. It has the potential, when seen as a process, for redefining the **relationship between the citizen and the State** with regard to coastal governance.

It follows that learning resources need to be provided which communicate the key communications messages of coastal literacy, those embodied in the four families and their component concepts. It also follows that to effectively do this, each resource should have a set of **learning objectives**. By way of example, the learning resources in www.coastaladaptation.eu will be developed around specific learning outcomes. An example is provided in Box 2.

Box 2. Learning module: Use of scenario approach in adaptation planning

LEARNING OUTCOME 1. The learner will be able to assess if scenarios are a suitable approach for developing coastal adaptation strategies to climate change in their area. (ie including at the end a checklist of 10 reasons why you should use the scenarios approach)
LEARNING OUTCOME 2. The learner will be able to understand the three scenario approaches that can be used; methodologies, benefits and disadvantages of each (illustrated by real experiences)
LEARNING OUTCOME 3 . The learner will be able to choose from the visualisation toolkit or from other tools that can support this process (linking to the various alternatives and reviews of each one and examples)
LEARNING OUTCOME 4. The learner will be able to know the requirements to successfully identify and engage the relevant stakeholders (linking to the Stakeholder engagement guide)
LEARNING OUTCOME 5. The learner will be able to organise and run a scenario workshop in their area (providing a template – including practical tips from real experiences)

Source: www.imcore.eu

The specification of learning outcomes does not need to be undertaken for all topics. However, it is important that it is done centrally for all concepts, and perhaps for some core topics (such as risk management for example), to ensure the coherence and consistency that should underpin delivery of coastal literacy. Beyond that, practical necessity dictates that learning outcomes at the topic level is left to those who deliver resources, or is unstructured for those who follow a self-directed pattern of learning. The framework of concepts provides sufficient structure and context.

3.2.3 Providing learning resources that introduce topics and guide people through the information resources available

In the Chichester Pathfinder project and the IMCORE project CoastNet have piloted the use of various multimedia resources and evaluated their worth in delivering elements of coastal literacy.

For www.coastaladaptation.eu learning resources will guide users through a wide range of resources, from reports, to databases, to visualization tools and more. The resources are still in development, but some information is provided in section 4 to illustrate the approach.
CoastNet have also tested two other approaches to the delivery of coastal literacy:

Short films. Seven short films have been made over the past few months. Some have been universally popular, and others have raised sensitivities amongst stakeholders. The films can be viewed at http://coastalliteracy.wordpress.com/film/ . Interestingly, stakeholders have been adamant that they be seen as a **suite** of films, rather than viewed in isolation. As such they provide a context for each other, reinforcing each other, and explaining some of the conflicts that can be perceived whilst viewing some of them. This is very resonant with the purpose of coastal literacy. As short films they are in fact rather long, but nevertheless they have proven universally engaging.

An evaluation of the films and of one approach to how they may be used to deliver coastal literacy to school children is available for download at http://coastalliteracy.wordpress.com/evaluation/ .

Leaflet. The Expert group that we worked with chose to make a leaflet about the Manhood Peninsula which reflected a coastal literacy perspective: informed, balanced, respective of differing viewpoints. It was a difficult task, as one might expect. However, the outcome is good and perhaps more challenging than any printed material that a single organization would consider releasing on its own. The value of different stakeholders working together to determine communications messages is apparent here. The task has also illustrated the difficulty of communicating coastal literacy with a single resource! The leaflet can be downloaded at http://coastalliteracy.wordpress.com/leaflet/ .

3.3 Who delivers Coastal Literacy?

The core resources for coastal literacy will be available online and available for use by anyone. They may or may not be free at the point of use, depending on how they are funded.
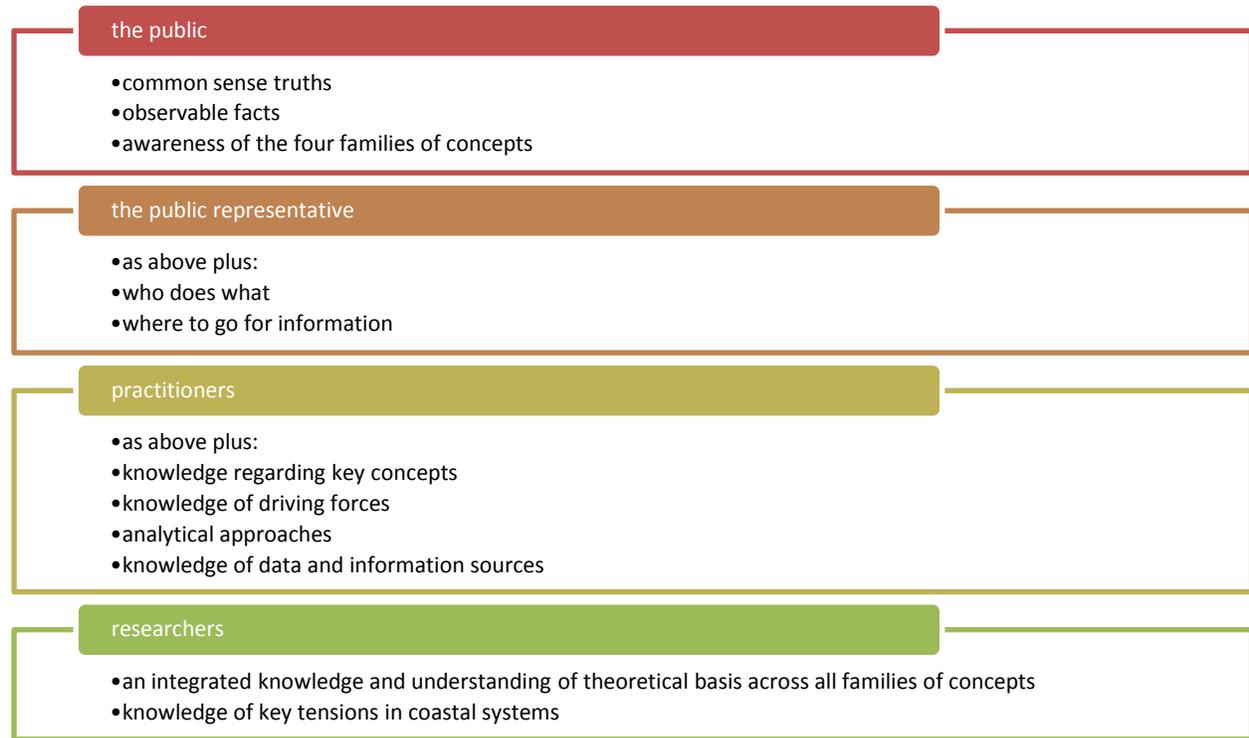
We anticipate that the resources would be useful in schools and universities, would be used by professional institutions and professionals themselves and by interested members of the public.

The Coastal Literacy Framework will enable schools, colleges, universities and other trainers to develop their own resources and for them to be consistent with and complementary to a much larger body of knowledge. The CoastWeb archive is available to store such resources in any digital form, and the coastal wiki provides a home for summary articles. A coastal Literacy website, along the lines of the www.coastaladaptation.eu would provide a gateway to these resources.

Many will point out that there are already many relevant resources available from a variety of sources. However, the CoastNet survey undertaken as part of this project (http://coastalliteracy.wordpress.com/education-survey/) shows that many fail to stand up to the coastal literacy standard on their own. Mainly this is because they present a strongly pro environmental protection perspective and do not fully reflect the four families of concepts. This does not mean they are not usable, but they do need to be contextualized within the balanced framework that Coastal Literacy provides. A simple quality check approach by appropriately qualified persons would achieve this.

4. Audiences and levels of information

We can identify four principle audiences: the public, the public representative, practitioners (policy-makers and implementers), and researchers. All need a certain level of knowledge but we would expect a different level of knowledge in each group:

the public

- common sense truths
- observable facts
- awareness of the four families of concepts

the public representative

- as above plus:
- who does what
- where to go for information

practitioners

- as above plus:
- knowledge regarding key concepts
- knowledge of driving forces
- analytical approaches
- knowledge of data and information sources

researchers

- an integrated knowledge and understanding of theoretical basis across all families of concepts
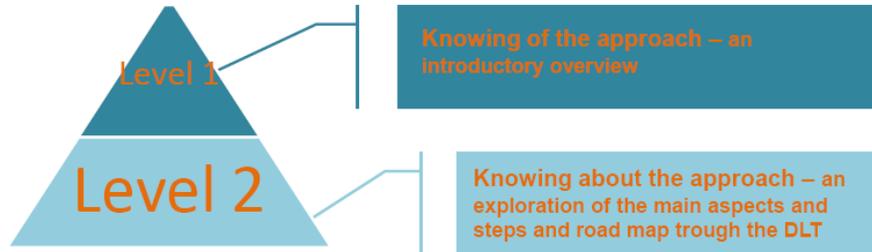- knowledge of key tensions in coastal systems

Clearly, we must accept that some people will know more than others for a variety of good reasons. It follows that different levels of information are necessary for each topic. This is the approach developed successfully for Ocean Literacy. Examples of different levels can be viewed at http://www.coexploration.org/oceanliteracy/CFDs/EP6/GB_K-2/cfd_6a.html and http://www.coexploration.org/oceanliteracy/CFDs/EP6/GB_9-12/cfd_6d.html . The difference in the complexity of the information being communicated is readily apparent.

The approach is illustrated in more detail below with material from www.coastaladaptation.eu .

Example of different levels of information

MODULE 1 – IDENTIFYING THE ISSUES

Level 1

Knowing of the approach – an introductory overview

Level 2

Knowing about the approach – an exploration of the main aspects and steps and road map trough the DLT

Note: Example of a Module which will be the same for all three modules having two levels and within each level the same three headers

1

Why | How | So what

Model 1 - Level 1

2

Why | How | So what

Model 1 - Level 2

Example of Level 1 information

MODULE 1 –IDENTIFYING THE ISSUES – OVERVIEW– LEVEL1

Why | How | So what

Model 1 - Level 1

1. Why do you need to identify issues?

2. How do you identify issues?

3. Who needs to be involved?

4. Planning and running an issues workshop?

5. So what do you do with the outputs?

1

2

Note: (max) 5 slides will take you through the issues identification approach - teaching you there is this approach. The next level (2) uses the same 5 headers but increases the level of detail.

Example of Level 2 information

MODULE 1 – IDENTIFYING THE ISSUES – IN PRACTISE – LEVEL 2

Why   How   So what

Model 1 - Level 2

Note: (max)20 slides introducing in more detail on the issues approach - teaching you what the approach is all about and how to use the rest of the DLT to find the exact information you need to actually use the approach

1. **WHY DO YOU NEED TO IDENTIFY ISSUES?** (use explanation from level 1, but build on content). Issues used to set the stage.
   ~ Explanation about how issues fit into the whole process i.e. issues > scenarios > adaptation strategies
2. ~Example of climate change adaptation process (to see where and how issues fit in to bigger picture):
Driver: Increase in Sea Temperatures
Vulnerability: Commercial fish species occur less in warm water
Stimulus for Adaptation: Decrease in income through lower stock numbers
Future Scenarios: diversify and create jobs in other industries un-reliant on fishing, identify other species of commercial interest
Options: adapt fishing vessels to enable fishing of other species
3. ~ Identifying and using examples of Local level (small scale) issue identification, and National/Europe –wide/Global (large scale) issue identification,
4. **HOW DO YOU IDENTIFY ISSUES?** (use explanation from level 1, but build on content)
   ~ Prediction of climate change drivers in 'your area' to then successfully identify issues from drivers.
   ~ Determine if issues derived will be Primary/ Secondary/tertiary
   ~ Determine timescale of issues and constraints: Short/Medium/Long Term
5. **WHO NEEDS TO BE INVOLVED IN ISSUE IDENTIFICATION?** (use explanation from level 1, but build on content),
   6. ~ Key industry and sector Identification (fisheries, tourism, recreational use etc.),
      ~ Why specific guidance will attract the right audience/ sectors which will need to be considered
7. **PLANNING AND RUNNING AN ISSUES WORKSHOP**
8. **SO WHAT DO YOU DO WITH THE OUTPUTS?**
   9. ~ Identify gaps in available information and any uncertainties and try to counteract these. Use to create scenarios
   10. **NEXT STEPS/KEY QUESTIONS:**

5. Next steps

Pathways to information

The coastal literacy framework provides an alternative system of organisation for information, one which reflects a practical perspective geared towards resolution of key management issues on the coast.

We have been able to 'map' this to a more generic framework, the CoastNet Subject Tree, which is used as the basis for key information resources.

However, the mapping is not a close fit in all topic areas and more work is required to link the two, and to map the subject tree into conventional library classification systems (eg Dewey http://www.oclc.org/dewey/) to further enhance its utility as an entry point to information resources.

Furthermore, we have demonstrated the need to provide guides for users, to establish the context properly (coastal literacy mindsets) and to signpost other resources. These are best delivered through a gateway website, so that control is maintained over the core resources of coastal literacy, so ensuring consistency and coherence.

Resources

Whilst providing a route to existing information resources is vital, its does not overcome the inaccessibility of much of this information. This inaccessibility arises from three features:

- Not knowing its existence (our mapping from the Coastal Literacy Framework and the advanced search features of CoastWeb will help in discoverability)
- Technical language and jargon
- The difficulty of interpretation: i.e. is this piece of information relevant to the issue at hand?

In order to address the final two points it is important to provide resources that both translate technical information into more easily digestible forms, and that guide people through concepts and approaches.

Developing the framework

We have highlighted the need for an open, transparent and inclusive approach to the further development and maintenance of the framework. This implies a network of supporters/developers and perhaps an online tool for revision, such as a moderated wikipaedia along the lines of the coastal wiki.

Turning education into action

The Coastal Literacy Framework should stimulate debate – and largely this debate will be about practical issues regarding coastal management priorities. A logical next step is to use the power of the framework to energise debate about what should be done, what can be done, and who should do it. It should be a simple task to devise an action planning module to take Coastal Literacy to this next phase.