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The Marine Protected Areas in the Atlantic arc (MAIA) partnership, financed by INTERREG Atlantic Area, is led by the French Marine Protected areas Agency and incorporates organisations from France: le Comité National des Pêches et des Elevages Marins (CNPMEM) and Association du Grand Littoral Atlantique (AGLIA); Spain (Universidade da A Coruña, Government of Galicia); Portugal Instituto Nacional do Recursos Biológico (IPIMAR) and Instituto da Conservação da Natureza e da Biodiversidade (ICNB); UK (Joint Nature Conservation Committee (JNCC), Finding Sanctuary and Natural England).

## BACKGROUND

Stakeholders are increasingly at the centre of Marine Protected Area (MPA) planning and management across the Atlantic area, but there has been little opportunity to share experiences and lessons learned to progress MPA design and development within stakeholder led processes. This workshop was an important opportunity to share approaches within Marine Protected Areas in the Atlantic arc (MAIA) partner countries. The aim was to transfer skills and knowledge at a number of different levels to ensure that MPA planning and management can be more effectively designed for stakeholder input and participation.

The event was designed to help stakeholders and MPA managers to progress thinking and techniques across partner countries for the planning and management of MPAs. There was simultaneous translation into French, Spanish and English to ensure that all delegates were able to fully participate in the discussions to support the production of best practice outputs. This was the first time in Europe that stakeholders such as fishermen, conservationists, MPA managers, sea anglers, etc, have been able to listen to the perspectives and experiences of their counterparts.

Delegates to the workshop were welcomed by **Amandine Eynaudi** (MAIA project manager) and to the venue by **Tom Hooper** (Finding Sanctuary project manager).

The key objectives for the workshop were to:

- Share methods and experiences of MPA planning being undertaken across partners in the MAIA Project;
- Understand stakeholder experiences in the identification and planning of MPAs
- Share methodology and techniques for involving stakeholders in MPA planning;
- Share methodology and techniques for mapping stakeholder activity;
- Evaluate and propose best practise approaches to identify and develop MPAs through the engagement of stakeholders; and
- Develop mechanisms to manage conflicts in the identification and development of MPAs.

This was organised in five sessions over two days (Appendix 1) and attended by 80 delegates (Appendix 2). Formal presentations were followed by questions and discussion sessions. A short questionnaire was also used to get additional feedback from participants at the end of each session (Appendix 3). Abstracts of the presentations are given in Appendix 4. The event was organised by **Bob Earll** of CMS and the report compiled by **Sue Gubbay**.

There was also field trip to see management issues at first hand on the Dart estuary and Brixham, and a full day on using decision support tools and participatory GIS-based tools in MPA planning, after the two day workshop.

## SESSION 1 PLANNING MARINE PROTECTED AREAS

The first session, chaired by **Lynda Rodwell** (University of Plymouth, UK) focused on planning Marine Protected Areas. It commenced with a joint presentation by **Ricardo Arnáiz Ibarro** and **José Antonio Fernández Bouzas** from Spain who described their experiences of **MPA planning in Lira and Parque Nacional das Illas Atlánticas**. Both these MPAs were put forward by the local fishing industry to protect fish stocks and breeding areas, and to find a balance between fish production and ecosystem recovery. There was a census of existing fishing operations before the MPA in Lira was proposed and two areas of restrictions were subsequently agreed along with the associated management measures such as minimum catches, and only specified vessels authorised to fish in these areas. The main change has been a reduction in the number of vessels undertaking shellfisheries.

The controls in Lira are through voluntary agreement with fishermen reporting the location of their catches and supplemented by the measurement of landings and some onboard sampling. There is ongoing discussion between technicians and researchers about the best methods and criteria to use to determine if the MPA is working. (E.g. register of fishing activities, auction sales analysis, onboard observers) because at the moment different organisations are using different assessment systems so the results are not directly comparable.

The Parque Natural Illas Atlánticas is a government initiative and a much more intensively used area visited by around 300,000 tourists a year. The park is zoned and includes some highly protected areas. Management is through a Board whose members represent all the interests in the Park. The Park is protected by laws which include penalties for illegal fishing but this is difficult to apply. There Comments are being sought on general management plan and sectoral plans e.g. tourism, through public participation.

In response to questions the speakers explained that stakeholder participation in the planning of these two MPAs is very different. In Lira it is mainly being taken forward by the fishermen for example by undertaking the control and monitoring. They can see the benefits and are therefore keen to get involved. In the National Park the management is led by the public administration who are trying to encourage stakeholders to participate but with variable success.

The objectives of the two MPAs are very similar as both were created out of a desire to maintain the traditional fishing grounds and the traditional way of life it supports. There are no plans to exclude commercial fishing from the Park, just an understanding that fishing should not be carried out in excess. In Lira it was decided that only those fishing vessels already registered as working within the boundaries of the MPA could continue to keep working in the areas. Biodiversity conservation is a necessary part of this so they are trying to ensure activities are compatible to both ends.

**Jean-Noël Yvon** (President of the Oyster Farmer's Syndicate, Ria d'Étel, France) described the **Case of Ria d'Étel Natura 2000 site – from conflict to an MPA**. The Ria d'Étel Natura 2000 site is a complex of habitats including islets, lagoons, saltmarsh and rocky reefs. The main activities are oyster cultivation, agriculture of surrounding land and some tourism. The administration is split across 17 different communes. A project was initiated in 1994 to try and ensure the waters could have a good classification for shellfish under a new European Standard. There was a danger that this

would not be achieved because of nutrient runoff from the surrounding land. The fishermen set up a committee to defend the water quality, employment and dialogue with the other stakeholders. Voluntary agreements were made and funding was sought to plant up river banks to minimise pollution. There was considerable interest and lots of stakeholder meetings over a 4 year period. Eventually this led to the setting up of the *Syndicat Mixte de la Ria d'Etel* – a local government body dedicated to environment and water management who brought in more expertise gradually as it was required. When the *Natura 2000* site was proposed the management was fairly straightforward as it built on what had already been achieved by the stakeholders working together beforehand.

Discussion following the presentation made it clear that a decision by the oyster farmers to have a dialogue with the agricultural community following a pollution incident from surrounding agricultural land, rather than take legal action was key to moving forward. This was a long process but looking back it seems the only way it could have gone faster would have been with less consultation but this would have failed to recognise that people/organisations move forward at different speeds. The approach taken has been vindicated in that the watercourse is now graded A for shellfish water quality and the programme has become incorporated into the regulatory standards. This has had the additional benefit of securing long-term funding.

**Mike Bailey** (British Mullet Club, UK) and **Andrew Finlay** of the Crown Estate described their **Stakeholder perspectives of MPA planning in South West England**. Both had participated in the Finding Sanctuary project to identify potential Marine Conservation Zones in South West England. Mike Bailey explained the difficulties of involving sea anglers which although large in number are difficult to contact and get opinions from as most are not affiliated to angling clubs. To tackle this as part of the project there were drop-in days with volunteers doing interviews to find out where people fish and the main areas of intense fishing. Small working groups were set up within the project and there were many meetings. This was challenging for all sectors but achieved a great deal with support from the project team and facilitators. Starting with around 500 sites they concluded with a proposal for 58 sites to provide a cohesive ecological framework. Getting stakeholders involved at the start was vital to getting ownership for the final proposals.

The Crown Estate was a national stakeholder participating in all the regional MCZ projects. Some of the main challenges were the timing of the advice and guidance needed to facilitate proper planning, inconsistent regional project team approaches and different statutory advice throughout regions. A key issue for the Crown Estate was also reliability and confidence in the data on which decisions had to be based albeit the best available at the time. Because of this a lot of the stakeholders embarked on the process of site identification with a precautionary approach. The timetable for the project was very ambitious and it is a remarkable achievement to have involved so many stakeholders and put forward recommendations from each regional project. The challenge now is to go from the recommendations to a full network of MCZs, balancing the expectations of stakeholders with realistic and practical MCZ designations.

The speakers were asked what they considered to be indicators of success of the project and next stage of the MCZ network. The fact that the projects had come up with 130 recommendations was considered to be a huge indicator of success. Being involved in the discussions was of considerable value but difficult to evaluate and it is also too early to evaluate the success of the network until it is clear what exactly is going forward and how the individual sites will be managed. The speakers also

noted that we need to be aware that some of the benefits to the recreational and commercial fishing sector may take many years to reach fruition.

Participants explored what the next stages are going to be such as; who will be deciding what sites are protected, on what criteria and how negotiations might be taken forward with the European Commission. There was also a comment that perhaps there had been positive discrimination towards economic interests and specifically commercial fisheries interest as most of the modifications to the proposed sites appear to have come from these sectors. The sites, together with impact assessments will be subject to public consultation and possibly go through government in tranches rather than as a single proposal.

**Governance issues emerging through MCZ design processes in SW England** were described by **Peter Jones**. This work was undertaken as part of the European Commission funded project on Monitoring and Evaluation of Spatially Managed Marine Areas (MESMA). Nine cases studies are being used to investigate how economic, interpretive, knowledge, legal and participative incentives have been combined to address conflicts and effectively achieve particular objectives. The Finding Sanctuary project was included as a case study from SW England as an example of a 'facilitated deliberative participation approach' amongst stakeholders. This represents an interesting combination of legal and participative institutions with a strong state steer to identifying a network of potential Marine Conservation Zones (MCZs). A Science Advisory Panel has provided ecological guidance and scrutinised proposals to check they are consistent with this guidance. In practice this means that the identification of MCZs is combining a top-down role of state and bottom-up participative approaches.

Tensions inherent in this type of arrangement were described such as the fact that people wanted to be regarded by the group as constructive participants but also to represent their stakeholders, and that fishermen felt they would be suffer the greatest economic impact from a MCZ network but that but other sectors had a greater influence on the process. The governance questions and issues will continue and the outcome of taking this potentially innovative 'people to Parliament' approach remains to be seen.

Delegates were interested in how sites being proposed in England might meet up with sites in France, for example, where there has been a different process and whether inshore and offshore areas should have been considered differently. The Finding Sanctuary project covers an area to UK limits but in practice any restrictions on fisheries beyond 6nm will need to be agreed through the CFP. The process for the final decision making and the drawing up of management measures was also explored and it appears that lack of financial resources, which could not have been fully anticipated at the outset, will undoubtedly play a part.

## GENERAL FEEDBACK AND DISCUSSION

The discussion which followed and the feedback from questionnaire returns highlighted the following good methods and techniques for involving stakeholders in planning MPAs;

- Be clear about the objectives, consultation and information giving and also how the outputs will be used . Communicate these to the sectors affected.

- Get all stakeholder interests and partners involved from the start of the process including considering how to reach those which are not affiliated to particular groups and be aware of conflicts within sectors e.g. fisheries.
- Use any established focus groups as a starting point and expand stakeholder involvement from there.
- Make sure each group is comfortable with its understanding of the process before entering negotiation between stakeholders who have conflicting views.
- Communication between all parties in the process is key. Open and sincere discussions with good dialogue and sharing information is needed in order to identify common grounds and issues.
- Get best expertise directly from stakeholders/sectors including international players and encourage involvement by explaining the benefits of participation
- Ensure there is enough time so that very important decisions are not taken too quickly, but also set a timescale with clear output targets as this focuses people. Manage the time effectively.
- Build relationships of trust – this requires time, discussions, a willingness to listen and independent facilitators especially in large/controversial cases.
- Consider study visits from other MPAs to encourage informal exchanges and learning.
- A good knowledge base, concrete examples and visualisation of activities and stakeholder inputs can help.
- Avoid “a priori” opinions and generalisations, accept differences, tolerate other approaches, and know how to conduct dialogue.
- Recognise the importance of an iterative process (top down and bottom up) and of dialogue from the start.

Also relevant to this session was the feedback from questionnaire returns on success factors for the successful planning of MPAs. There is inevitably some overlap with the points made above on good techniques for involving stakeholders in planning MPAs as the two elements are interrelated.

Delegates highlighted the need for;

- Clear priorities, objectives and communication of the intended decision making process
- Clear national policy that guides agencies, stakeholders and processes.
- A generous budget but also the need to think cost-effectively and in line with budget expectations during implementation.
- Adequate quality of data for ecology and activities including spatial analysis and mapping of such data if possible.
- Listen to stakeholders and make it a collaborative process involving all interested parties.
- Take an integrated management approach and demonstrate the benefits and value of a joint solution.
- Knowledge, good data, sufficient data to get consistent conclusions from analysis. Early thinking on monitoring priorities and feedback loops to improve the management plan.
- Clarify who takes the final decision.
- A transparent process that includes listening and giving time for dialogue with all stakeholders, as well as a shared assessment of the situation.
- A clear reasonable timetable for delivery of guidance, achieving the objectives and regular updates on progress including to those unable to be present at meetings.
- Identify and prioritise the real problems of each of the stakeholders.
- Need for stable political governance willingness to implement the decisions.

## SESSION 2 WORKING IN THE CONTEXT OF MPAS

Session 2 was chaired by **Peter Jones** (University of London, UK). **José Agustín Pérez Pernas** (President of Fishers Association of Cedeira, Spain) started this session with a presentation on **Stakeholder involvement in the development of a Management Plan for Ría de Cedeira MPA**. In this example 5 fishermen 'guilds' are working together to create protected areas in response to a decline in fishing. They drew up the 'Charter of Cedeira' in 2000 which forbade trawling in an area which they believed should be made a reserve and this was subsequently given legal protection in 2009. They have also agreed a zoning scheme with a ban on taking Goose Barnacles in part of the MPA so the stock can increase. More recently the size of the MPA has been expanded at the request of the fishermen. They have also been asking for minimum landings sizes to be increased but have had no success with the EU on this.

At the outset some fishermen called for compensation if fishing rights were to be removed. The guilds resisted this by explaining that the areas need to be seen as seeding the surrounding area and enhancing stock. In the end they agreed that it was being overexploited and would be protected with no compensation for those who were excluded. They have the help of the university and trust has been built up between the different groups but it has not been easy. The problem now is one of continuity as there are few young people coming into the industry. A major lesson is to involve local people, especially those who are strong objectors.

Participants were interested in how other fishermen were convinced it was a good idea and of any evidence of improvements following establishment of the MPA. Initially there were objections but there is a lot of support now and people want to be part of it to the point where neighbouring fishermen want MPAs. The group that manages the reserve will decide whether more fishing should take place based on data being collected and analysed by the university. It comprises different fishing representatives, but not trawling as this was considered incompatible with the area and has been banned. The policy is evolving – they are for example exploring the possibility of selling fishing from the MPA as premium. Policing and enforcement are fundamentally important.

**Kaja Curry** (Tamar Estuaries Consultative Forum, UK) presented **An English case study on effective MPA Management**. The example was the Tamar Estuaries Consultative Forum which brings together 15 organisations who represent the main interests using the area- commercial, military, environment and recreation - to try and deliver sustainably managed estuaries. There is also a wider stakeholder group, the Port of Plymouth Marine Liaison Committee who feed through issues to the steering group. The process is Chaired by the Queen's Harbour Master who also provides the Secretariat.

Established in 1994 the main focus today is on devising and delivering the management plan by working as a team and being proactive. There are numerous pressures on the areas such as the massive demand for waterfront property, operation of the second largest port in England and expansion of marina related berths. The key ingredients for success have been taking a basic planning approach and working with evidence, vision, and commitment. Stakeholder engagement, both bottom-up and top-down has also been very important along with strategic and spatial thinking.

The estuary is part of the Plymouth Sound and Estuaries European Marine Site but has also recently been proposed by stakeholders as a potential MCZ. Delegates were interested in whether the current role of the Consultative Forum would be adequate to deliver any new requirements if the area was to become an MCZ. The considerable liaison experience should make this straightforward and given the activities that would need to be controlled in the MCZ (proposed for the smelt) are already covered by other fisheries management measures, there should be no difficulties with continuing the current arrangements. Examples of projects which have worked as a result of the collaboration were education programmes to raise awareness of the site. Today the focus is more about providing understanding of the activities of the relevant authorities, how these might impact the site and what can be done to minimise or mitigate out these impacts. In the future, if money were no object, it would be very helpful to have a simple accessible and understandable dashboard that summarises whether the site is in a good state and the pressures that need to be tackled.

**Bruno Claquin** (Président du Comité Local des Pêches Douarnenez – Conseil de gestion Parc naturel marin d'Iroise France) gave a presentation on **Fishermen's involvement in the management of Parc Naturel Marin d'Iroise**. This was the first marine Parc Naturel in France and a location used by lots of fishermen in activities as wide ranging as gill nets, handlines, longlines, seaweed harvesters. The fishermen wanted to participate rather than take an "empty chair" policy and felt it was necessary to have a long term vision. They are involved, listened to and are pleased because things are being done taking their views into account.

The committee had 48 people so there was interest in how easy it was to reach a decision. The speaker agreed there could be difficulties with such a large number. They try to reach agreement in the Council although on occasion they set up some thematic sub-groups at the bureau level who then advise the Council. In terms of advice to other MPA initiatives the speaker stressed that communication at the beginning with all parties was essentially, not only to listen to what is going on but to get the point of view of all parties. The speaker was asked about examples of negative effects on fishing as a result of the MPA. Some fishermen feel it was a nuisance but this may only be in the short term if stocks recovery as hoped.

## GENERAL FEEDBACK AND DISCUSSION

The discussion which followed and the feedback from questionnaire returns highlighted the following key points for successful implementation of MPAs;

- A high standard of scientific and activity data for the proposed sites.
- Clear objectives, which are widely and effectively communicated.
- Information provision, sharing, understanding involvement and support from all stakeholders.
- A steering group of relevant stakeholders who will be listened to by authorities
- Involving stakeholders in enforcement.
- Encouraging community awareness, support and engagement.
- Surveillance and enforcement, including voluntary codes of conduct.
- Resources for implementation including for research, monitoring and evaluating effectiveness.

- A reliable assessment i.e. based on good quality data, of mutual assets and of activities but which is jointly produced and shared by all stakeholders.
- Raise as many people's awareness as possible with regard to the importance and benefits of managing the environment, including through MPAs.
- Having discussions in small groups as well as plenary in order to enable everyone to freely express their opinions.
- Producing summary documents, accessible to all, which can serve as a basis for discussion.
- Meeting protocols which are known in advance and only changed via a discussion process.
- Identification of the issues and the stakeholders' vision. The objectives need to be clearly understood by the stakeholders, and the management methods need to be effective, efficient and relevant to the issues initially raised.
- An interest on the part of the area's inhabitants, particularly those that work in it such as the local fishermen.
- Clear governance structure with defined periods for revisions and an awareness of political timetables as this can have a significant effect on decisions regarding implementation.
- Seek innovative sources of financing MPA including from the private sector.
- Devise and implement a compliance strategy.

Also relevant to this session was the feedback from questionnaire returns on ways to manage conflicts in the identification and development of MPAs. There is inevitably some overlap with the points made above on successful implementation of MPAs as the two elements are interrelated.

Delegates highlighted the need for;

- Transparent communication of biological, economic and social aims.
- Incentivise the participation by addressing specific research or monitoring needs of groups.
- Allow time for the process and give one-to-one attention to allay fears of participants.
- Good presentation of evidence backed with recent and reliable data.
- Use feasibility studies to help identify potential sites.
- Be patient and very clear.
- Clearly understand concerns, and priorities.
- Identify benefits to parties so there is a win-win situation where possible.
- Ensure stakeholders can express concerns and question them so they develop and come up with solutions themselves.
- Clearly explain why particular zones are being proposed for designation and the choices that have been made leading to these decisions.
- Discussion and dialogue with the stakeholders right from the start of the process, including early involvement of potentially difficult partners.
- Consider compensation for lost income.
- Be adaptive and be realistic in expectations of resolution (focus on manageable conflicts); promote facilitated airing of problem sessions involved more than the directly conflicting elements; be frank in managing expectations and have uniform discourse across distinct audiences.

## SESSION 3 INVOLVING STAKEHOLDERS IN DECISION MAKING

Day 2 was introduced by **Sir Harry Studholme** (Chairman, Finding Sanctuary, UK) who emphasised the importance of stakeholders being involved in MPA decision making. The issue was not whether to do so but how. He stressed the need to develop trust, consider the economy and involve all stakeholders. The lesson from Finding Sanctuary is that if stakeholders are given a real opportunity to contribute they will welcome this and the approach taken has certainly been novel and a way of truly embedding stakeholders in the process.

The session was chaired by **Roger Covey** (Natural England, UK) and the first presentation was by **Rob Angell** (RKP, UK) on **What makes a dialogue process work?** Key to this was recognising that dialogue is not a debate but rather about listening and sharing information to explore options and ideas. It is essential to be clear about what is negotiable, what is not negotiable, and what is open to stakeholders to change and shape themselves. There are many different ways of getting engagement and the most appropriate needs to be thought through at the outset so meetings feed into each other and have a logical sequence and rational. There are also lots of phases moving from ideas and options, to priorities and decisions. The process should be set it up so that engagement leads to better decisions and getting to implementation sooner than if you did not involve people. At the same time to get the most out of it, the process needs to be structured with clear parameters, a clear remit and clear policy guidance.

The selection process and balance of representatives in the Finding Sanctuary project was questioned by delegates. Although not ideal, they were self-selected to start with from an existing group so it took time to sort out to the satisfaction of everyone. As part of the selection it is important to ensure that everyone is treated equally – it could be argued for example, that better resourced groups would be at a greater advantage. This can be a risk so in Finding Sanctuary they set up a small fund to help people with the costs of attending the meetings and so try and level the playing field.

Moving to the implementation stage delegates were interested in the speaker's view on whether heavily impacted groups might try and bypass the problem in another way later on. Using the example of a dispute over proposed timescale for decommission of UK nuclear reactors as an example it was clear that people do stick to agreements made through a process such as this because they get a better understanding of the different perspectives. This is what he hopes will happen as the work of Finding Sanctuary goes out to public consultation.

**Eric Poncelet** (Kearns & West, USA) gave a presentation on **Facilitating the California Process**. This was an initiative set up in response to the California Marine Life Protection Act and to directly involve stakeholders in the MPA planning process through participation in regional stakeholder groups. The process covered around 110 miles of coastline and out to 3 miles offshore, there were four separate regional stakeholder groups and the facilitation team were able to learn from the process and change methods as the initiative moved on to the different groups over a 7 year period.

Changes made which contributed to the success were new recruitment criteria so that local interests were balanced with regional perspective, interviewing nominees to sit on the groups and using "alternatives" as a way to limit the size of members seated at the main table. The groups worked in

different ways in different regions and the facilitation approach was also tailored to address regional differences. At the end of the process there are 129 new MPAs covering 16% of the waters.

The role of the state agency in the process was questioned by participants and it was clarified that the Department of Fish and Game were originally a stakeholder but had power to change the proposal. In the second region they shifted to become more of a guidance agency of what was required for management rather than being part of the decision making process. In terms of the outcomes the speaker was asked how much they changed from original ones proposed by the scientists. The general view is that the stakeholder proposals were more robust and in fact some of the consumptive users thought they would have been less impacted if the proposals from the scientists were what was finally agreed. Also, he made clear that although the participants were selected, this was a supplement to the democratic process which was enshrined in the law. Now that the MPAs are in place their effectiveness needs to be monitored. Many of the stakeholders involved earlier want to continue playing a part whereas others felt they had contributed enough.

Given that the MPAs are excluding fishing in California the speaker was asked if there have been positive results regarding the social element such as job creation given that fishermen have probably lost their jobs. Although relatively recent we know anecdotally that fishermen have changed gear type and species still appear to be successful but the State is looking closely to see if there are economic impacts. The perception is that the MPAs are about fisheries exclusion is because the lead agency responsible covers this and it is what the statute covers but there are also other important issues such as water quality which need to be addressed.

**Will McClintock** (University of California, Santa Barbara, USA) gave a presentation on using **MarineMap and OceanPlanner**. This has gone through several versions and is a geodesign application whereby you quickly sketch a geographic proposal and immediately get feedback about the consequences of such a design. Proposals could then be modified in response to the report. This makes it an iterative process which can be tracked and cross-checked against guidelines for designing MPA networks or other policy guidance. The next version which will be called 'SeaSketch' will include a threaded discussion forum making it possible to liaise with others looking at the map whilst making a proposal, and also help decision takers see more of how proposals are developed and where ideas come from. SeaSketch is going to be used in New Zealand next year to encourage stakeholder participation in selection of potential MPAs.

Participants wanted to explore how people worked with the tool in group settings. In the case of Finding Sanctuary, for example, they found that large maps with acetate overlays were more practical than GIS which was slow and not intuitive. In the case of MarineMap stakeholders were given training and they could see that using it would ensure their proposals pass the tests of the scientific advisory guidance. Those who used it also understood the scientific guidelines better and helped explain the process to others. There was the added advantage that people could upload ideas before meetings so many more options could be considered and this is what happened in the north region where the tool was ready and there was a tighter deadline. The team recognise that they need to incorporate more visualisation of any uncertainty/confidence limits with the data and something along these lines is likely to be incorporated into SeaSketch.

The final presentation in this session was given by **Alexandra Cunha** (CCMAR, Portugal) and **Miguel Henriques** (ICNB) who described **LIFE Biomares in the Marine Park Luiz Saladanha – an opportunity**

**to involve the stakeholders.** The focus of this project was restoration of seagrass beds through a transplantation project using volunteers. This was very successful for the first three years but cold winter weather, storms and heavy predation by fish meant that there was a major setback in the fourth year. This highlights the importance of evaluating such projects over a long term. There were also surveys of fishing and fishermen's opinions, for example on the types of gear which should be excluded from the marine park, and experimental fishing (using stakeholders) to compare totally protected from multiple use areas. Volunteer divers were involved in underwater surveys after inviting them to participate in a marine biodiversity workshop and they have helped the project by providing underwater photographs. The recreational boating associations were also involved in a project to place environmentally friendly moorings in the Marine Park by choosing where they should be placed to minimise danger to bathers and limit damage to seagrass beds.

The successful transplantation methods and monitoring of the 'donor population' to ensure no adverse effects was discussed as was work which identified fish predation as the main pressure. The work highlights the importance of measuring success of projects such as this over an appropriate timescale, perhaps a decade, rather than a few years.

## GENERAL FEEDBACK AND DISCUSSION

The discussion which followed and the feedback from questionnaire returns highlighted the following main ways in which to ensure stakeholders are successfully involved in MPA planning;

- Ensuring that stakeholders are fully aware of and have a clear shared understanding of the aims, objectives and process. This needs to be reiterated throughout the process
- Undertake a good analysis and build knowledge of the stakeholders and their issues.
- Carefully selecting stakeholders with listening skills and try and find a shared way forward.
- Focus on people not technology but use technical support and creative tools (maps) to help people participate and incorporate stakeholder views.
- Communicate with all stakeholders. Take time to see each group representatives, make each group express its own issues and get stakeholders identified and involved as early as possible
- Offer/seek the possibility of stakeholders involved in the planning to be represented in final steering group of the MPA.
- Encourage stakeholders to collaborate at all stages so they feel the project is theirs.
- Avoid creating/sustaining an environment where groups become and stay polarised.
- Assure the stakeholders that the MPA decision-maker/manager will use the work which has been carried out in consultation with the stakeholders and that decisions can be justified in light of what the stakeholders have put forward
- Ensure that stakeholders are available and have the necessary resources to enable them to be represented.
- Provide a meeting or discussion format that permits everyone to express themselves freely.
- Objectivity, understanding and tolerance lead to trust. Promote dialogue rather than imposition and seek to plan for the long term
- Propose the active intervention of different stakeholders, professionals in this area and use the potential which has been created at the monitoring and management stage.
- Recognise that although investment in stakeholder process is huge it still needs to be done when money is tight.

## SESSION 4 MAPPING STAKEHOLDER ACTIVITY

**Jonny Murt** (Joint Nature Conservation Committee, UK) gave a presentation on **International Stakeholder Engagement** which was concerned with ensuring that international fisheries perspectives could be fed into the UK MCZ projects. Using VMS data, background information was collected to find out the level of fishing activity in UK waters, which could be broken down into different gear types and vessels registered with different Member States. To encourage involvement from relevant fisheries interest outside the UK, JNCC gave presentations at Regional Advisory Council (RAC) meetings, translated key nationally produced documents into other languages and held country specific meetings. The level and desire to get fishermen actively involved varied from country to country and included meetings to discuss maps and identify important grounds, and complete questionnaires. There were many challenges including data limitations and the short timescale to encourage involvement. Some stakeholders also felt that they were already on the back foot because the projects had already been running for sometime before they had an opportunity to be involved. At the same they were also being inundated with meetings if they wished to participate.

In discussion it became clear that the different fleets and countries perceived MPAs in different ways. For example as Dutch and Belgium fleets were almost exclusively beam trawlers they saw MPAs as somewhere they would be excluded from whereas static gear fishermen were more supportive as they were more likely to be able to continue to operate in such areas. There were also differences in the RAC members. Some were very positive at the meetings but there was little in the way of follow up. It is thought that they will probably play a bigger role in the general consultation.. The initiative to involve international stakeholders was welcome but there were difficulties such as pressure to produce data too quickly and regional project iteration documents only being provided in English. The short timescale was certainly recognised as a pressure by the team as well as the stakeholders, as was the need for improvement if such an exercise was carried out again.

**Patrick Berthou** (Ifremer - Brest, France) presented **Recopesca: a new example of a participative approach to collect fisheries and *in situ* environmental data**. This project, which started in 2005, has the objective of improving the knowledge of spatial distribution of fishing effort and catches and collect new environmental data on the fishing areas. A network of 40 fishing vessels volunteered to collect scientific information to help the management of fisheries. Data are collected on fishing effort, catches and physical parameters such as temperatures and salinity using onboard sensors and data loggers. Two general algorithms are being used to reconstitute the trips and to give a visual image of the sensor information e.g. depth profile and when nets were lowered and raised. A lot of useful information has been collected from what is an affordable and modular system for both the participating fishermen and fisheries scientists.

Convincing fishermen to get involved was not difficult as IFREMER has a network of observers in close contact and works with local committees. Also, because fishermen can get data on a much quicker time scale than is usual with fisheries data they were interested in getting involved. Feedback takes place on a confidential basis to the individual vessels. Consolidated data is now becoming available to French fishermen's committees and there are also plans to put consolidated annual information on a website so that it is available to others.

**Perrine Ducloy** (Comité National Des Pêches maritimes et des élevages marins, France) described **French approaches to mapping commercial fishing activity**. Professional organisations need to know more about the distribution of fishing activities at a fine scale and to associate a gear to a specific area. Aggregated and individual data would be useful to the regional fishing committees for example when participating in marine planning discussions or carrying out impact assessment on marine Natura 200 sites. The difficulty is that such data belong to the Ministry of Fishing and is confidential. Also it is not at the correct scale for dealing with the more detailed problems the committee cover. For this reason the committee set up their own mapping projects. In Brittany this was in response to the need to respond to proposals for offshore windfarms. Outputs include a map of species caught and type of gear used, and extent of fleet in different areas. Both can be collected fairly quickly but are not specific enough to help answer local questions. Such data are therefore being supplemented with information collected from interviews with fishermen. Lessons learnt include the need to ensure people who know about the sector have be invited to participate, to explain quickly and clearly the point of the survey and how participants might benefit, to try and focus on individual fishermen/crews and to provide geographic landmarks on maps.

The quality and reliability of the data collected in this way was discussed by participants and whilst often fairly general the different committee projects are evolving and should improve. They are also going to try and define indicators and link with other bodies such as IFREMER to provide information on a reciprocal basis so there are wider benefits.

## GENERAL FEEDBACK AND DISCUSSION

The discussion which followed and the feedback from questionnaire returns highlighted the following examples of methodologies and techniques for mapping stakeholder activity;

- Make sure any surveys/interviews are structured to get good quality/resolution data.
- VMS, surveys, GIS including web based public participation GIS, used OGC standards.
- Investment of funds in stakeholders – maintain belief even in times of economic uncertainty.
- Big paper map and acetate in a meeting or digital version – draw on a big screen, interactive whiteboard.
- Define the stakeholders and, once you have explained the objective to them, use maps that include landmarks and data . Get the stakeholders to validate and add to this.
- Use reliable data validated by the stakeholders concerned.
- Take care with scales when mapping data
- Reflect any seasonality of activities, perhaps by producing a map for each season.
- In Brittany, the activity of professional fishers along the coast has been mapped using data from their on-board computer, retranscribed into GIS, and supported with additional surveys.
- Get the sea users to draw up their maps and the biologists to draw up theirs and monitor the fishermen very closely. They are reluctant to begin with but in the end they get heavily involved.
- Incorporate GIS into all vessels, combined with on-board monitoring via scientific observers and sales checks.
- Questionnaires.
- Interactive mapping website.
- Field surveys with stakeholders.

Also relevant to this session was the feedback from questionnaire returns on what participants believed were the main ways in which to ensure that stakeholder activity is successfully mapped. There is inevitably some overlap with the points made above on methodologies and techniques for mapping stakeholder activity as the two elements are interrelated. Delegates highlighted the need to;

- Give clear data on habitats and activities as a backdrop.
- Listen to what people say and record this accurately.
- Give complete access to public information and share information with stakeholders.
- Have good quality control of data and validation with reference to global standards.
- Make data geographically accurate at a fine scale.
- Show stakeholders how they might benefit from contributing information.
- Make data return compulsory.
- Involve stakeholders in producing summaries and use an iterative (repeated) process.
- Produce survey protocols with the users in question.
- Joint validation of activity mapping /results by the stakeholders involved including local expertise to pick up any inconsistencies in the data.
- Make sure you use the same language, the same spatial/topographic references, as the stakeholders whose activity is being mapped
- Provide geolocation equipment to uses and generate probabilistic distribution maps where data not available.

## SESSION 5 DECISION SUPPORT TOOLS

**Computer-based tools used in MPA planning – Finding Sanctuary’s experience** was described by **Louise Lieberknecht** (Finding Sanctuary ,UK). This presentation gave an insight into information presented to the participants of Finding Sanctuary and the tools they were given for the process. The starting point was ecological guidelines and blank maps. A lot of time was spent collecting information on the biophysical environment and base maps. The project team also tried to map out information on human activities. For example base maps were taken to fishermen to map out areas and fill in questionnaires. In the end they pulled out key data sets and used acetate overlays. This was unwieldy but it did work. GIS was used to prepare the maps and capture the information provided by stakeholders and is being used to prepare maps of the final recommendations.

Points which came out in discussion included the importance of web-based tools, being clear what the outputs will be used for, and getting the interface with any technology right to avoid putting people off. Valuation data which is going to be used for an economic assessment of the proposals has come from a combination of sources - processed VMS data, UK vessels and ICES landings values per rectangle as well as fishing distribution within the rectangles.

**Charlotte Michel** (France) described **Modelling the future of MPAs – A case study of Bassin d’Arcachon**. This was a project which tried to get stakeholders to have a vision for the long term allowing them to innovate more and contribute more actively in a participatory process. The research and agency team used four scenarios for the year 2040 to outline issues and key variables. These ranged from a purely market driven scenario with lots of development, to a scenario where nature was the major concern and an MPA would have a key role. The different scenarios were

discussed by stakeholders at a number of workshops. The feedback they received was that most people liked the different way of thinking stimulated by the scenarios and that exploring the future was a good device to encourage participation.

The following discussion brought out an important point that by distancing stakeholders from present day tensions they could work more clearly on a collective strategy. The scenarios were prompts for discussion rather choices and no common design ideas emerged as different things were taken from different scenarios. There was however a need to recognise it was not modelling so the scenarios were divorced from background/other issues.

## GENERAL FEEDBACK AND DISCUSSION

The discussion which followed and the feedback from questionnaire returns highlighted the following recommendations of particular tools and techniques that should be used to involve stakeholders in MPA planning;

- Easy presentation of multiple layers of geographic data.
- Well facilitated discussions.
- Consultation and participation techniques including interactive web applications and dynamic mapping.
- Undertake long-term planning .
- Recognise that the standard meeting format is not necessarily the most appropriate – use role plays?
- Talking, talking and more talking. Communication and more communication.

## Overall key messages

There were some strong and recurring themes of how stakeholders should be involved in MPAs in the presentations, discussions and feedback from the workshop. These themes were also evident at the different stages of MPA delivery from the planning stages through to implementation and monitoring. Key conclusions which can be drawn from this are the need for;

- clear objectives and a clear process to be communicated effectively
- full and early involvement, dialogue and listening with stakeholders
- demonstrating the benefits and value of finding a joint solution
- Recognising the constraints but working to a set timetable
- Good quality control of data

## APPENDIX 1 – Workshop Programme

### Day 1: Sept 26th 2011 - Stakeholder perceptions

- 09:30 Tea and Coffee - Meeting and greeting  
10.10 – 10.20 Welcome by Amandine Eynaudi (MAIA project manager)

### Session 1 Planning Marine Protected Areas

Chairman Lynda Rodwell, University of Plymouth, UK

- 10:20 – 10:30 Introduction to session – Lynda Rodwell  
10:30 – 10:50 Experiences of MPA planning in Lira and Parque Natural Illas Atlánticas  
Mr. Ricardo Arnáiz Ibarrondo, Mr. José Antonio Fernández Bouzas (Spain)  
10:50 – 11:05 Q & A  
11:05 – 11:25 From conflict to an MPA – Case of Ria d’Etel Natura 2000 site  
Jean-Noël Yvon, President of the Oyster Farmer’s Syndicate, Ria d’Etel (France)  
11:25 – 11:30 Q & A  
11:40 – 12:00 Tea & coffee  
12:00 – 12:25 Stakeholder perspectives of MPA planning in South West England  
Andrew Finlay (Crown Estates) & Mike Bailey (British Mullet Club)  
12:25 – 12:35 Q & A  
12:35 – 13:10 Governance issues emerging through MCZ design processes in SW England  
Peter Jones University of London (UK)  
13:10 – 14:10 Lunch time

### Session 2 Working in the context of MPAs

Chairman Peter Jones, University of London, UK

- 14:10 – 14:20 Introduction to session – Peter Jones  
14:20 – 14:40 Stakeholder involvement in the development of Management Plans for Cedeira MPA  
Cofradia of Cedeira (Spain)  
14:40 – 14:55 Q & A  
14:55 – 15:15 Being involved in an MPA: Fishermen’s involvement in the management of Parc  
Naturel Marin d’Iroise. Bruno Claquin, président du Comité Local des Pêches  
Douarnenez, membre du conseil de gestion (France)  
15:15 – 15:30 Q & A  
15:30 – 15:50 Tea & coffee  
15:50 – 16:10 An English case study on Effective MPA Management  
Kaja Curry, Tamar Estuaries Consultative Forum (UK, Plymouth)  
16:10 – 16:25 Q & A  
16:25 – 17:00 Discussion & Feedback - Key Points for Success when Managing a MPA.  
17:00 – 17:10 Summary & Close - Explanation of plans for evening and the next day

### Day 2: Sept 27th - Tools and techniques used in the planning and management of MPAs

- 09:00 – 09:30 Tea & coffee  
09:30 – 09:35 Welcome by Sir Harry Studholme (Chairman, Finding Sanctuary - UK)

### Session 3 Involving Stakeholders in decision making

Chairman Roger Covey, Natural England, UK

- 09:35 – 09:40 Introduction to session and housekeeping – Roger Covey  
09:40 – 10:00 Using MarineMap & OceanPlanner. Will McClintock, University of California,  
Santa Barbara (USA)  
10:00 – 10:15 Q & A  
10:15 – 10:35 Facilitating the California Process. Dr Eric Poncelet (Kearns & West, USA)

- 10:35 – 10:50 Q & A
- 10:50 – 11:10 Tea & coffee
- 11:10 – 11:30 Principles of building group decisions. Rob Angell (UK, RKP)
- 11:30 – 11:45 Q & A
- 11:45 – 12:30 Discussion and Feedback - Key points for success when involving stakeholders in MPA planning
- 12:30 – 13:20 Lunch time

#### Session 4 – Mapping stakeholder activity

Chairman Tom Hooper – Finding Sanctuary, UK

- 13:20 – 13:30 Introduction to session
- 13:30 – 13:50 International Stakeholder engagement. Sophie Elliott and Johnny Murt (UK, JNCC)
- 13:50 – 14:00 Q & A
- 14:00 – 14:20 Recopesca: a participative approach and autonomous system to collect fisheries and *in situ* environmental data Dr Patrick Berthou, Ifremer Brest (France)
- 14:20 – 14:30 Q & A
- 14:30 – 14:50 French approaches to mapping commercial fishing activity. Perrine Ducloy (France)
- 14:50 – 15:00 Q & A

15:00 – 15:15 Tea & coffee

#### Session 5 - Decision Support Tools

Chairman Tom Hooper – Finding Sanctuary, UK

- 15:15 – 15:35 Computer-based tools used in MPA planning – Finding Sanctuary’s experience. Louise Lieberknecht (UK, Finding Sanctuary)
- 15:35 – 15:45 Q & A
- 15:45 – 16:05 Modelling the future of MPAs – A case study of Bassin D’Archachon Charlotte Michel (France)
- 16:05 – 16:15 Q & A
- 16:15 – 16:45 Discussion and Feedback - Key tools and techniques when involving stakeholders in MPA planning

16:45 – 17:00 Summary & Close

## APPENDIX 2 – Attendance list

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## **APPENDIX 3 – Feedback form**

### **STAKEHOLDERS AND MARINE PROTECTED AREAS**

MAIA International workshop 26-27<sup>th</sup> September 2011, Dartington Hall, Devon, UK.

Name.....e-mail.....

#### **SESSION 1 PLANNING MARINE PROTECTED AREAS**

Examples of methods and techniques for involving stakeholders in planning MPAs

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.....

Key points for success when planning MPAs

.....  
.....

#### **SESSION 2 WORKING IN THE CONTEXT OF MPAS**

Key points for success when managing a MPA

.....  
.....

Useful ways to manage conflicts in the identification and development of MPAs

.....  
.....

#### **SESSION 3 INVOLVING STAKEHOLDERS IN DECISION MAKING**

Key points for success when involving stakeholders in MPA planning

.....  
.....

#### **SESSION 4 MAPPING STAKEHOLDER ACTIVITY**

Examples of methodologies and techniques for mapping stakeholder activity.

.....  
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Key points for success when mapping stakeholder activity.

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#### **SESSION 5 DECISION SUPPORT TOOLS**

Key tools and techniques that should be used to involve stakeholders in MPA planning.

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## APPENDIX 4 – Abstracts

### *Day 1: Sept 26th 2011 - Stakeholder perceptions*

Session 1: Planning Marine Protected Areas

#### **1. Experiences of MPA planning in Lira and Parque Natural Illas Atlánticas**

**Scientific and technical stakeholders. Data analysis and Criteria in Galician AMP's**

**Ricardo Arnaiz Ibarro** Email: [ricardo.arnaiz.ibarondo@xunta.es](mailto:ricardo.arnaiz.ibarondo@xunta.es)

Scientists and technicians involved in control and monitoring of AMP Galicia get different conclusions from the analysis of the same data.

Possible causes:

- Analysis methodologies are different.
- Direct contact on the ground with other stakeholders is different in both cases.
- Priorities and values of each group are different

A first seminar on methodologies to analyze methods, requirements, advantages, disadvantages and utilities was conducted.

#### **2. Experiences of MPA planning in Parque Nacional Marítimo Terrestre de las Islas Atlánticas de Galicia, Spain.**

**D. José Antonio Fernández Bouzas (Director)** Email: [jose.antonio.fernandez.bouzas@xunta.es](mailto:jose.antonio.fernandez.bouzas@xunta.es)

MT National Park of Atlantic Islands of Galicia is one of the two marine national parks in Spain. It covers 8,480 hectares and 85% of National Park surface is sea.

Creation Objectives:

- Protect the integrity of ecosystems associated with coastal and continental shelf.
- Conservation and recovery, habitats species and genetic diversity.
- Protection, recovery, development and dissemination of environmental values and natural heritage.
- Promote and support the traditional activities compatible with the protection of the environment.

At present, the PLAN OF USE AND MANAGEMENT (PRUG) of the National Park, is being used to collect ideas and suggestions for the governing of the Park over the next 6 years.

### 3 From Conflict to an MPA – Case of Ria d’Etel Natura 2000 site

Jean-Noël Yvon Member of the Oyster Farmers’ Syndicate, Ria d’Etel Email: [natura2000@ria-etel.com](mailto:natura2000@ria-etel.com)

Jean-Noël Yvon is an oyster farmer on Ria d’Etel. He comes from one of the oldest oyster farming families on the site, and began working in the family business in 1977. In 1988, he took over the running of the company which he still manages today. Jean-Noël was Chairman of the Ria d’Etel Oyster Farmer’s Syndicate from 1994 to 2001 then from 2010 to 2011. He is currently Vice-Chairman of the syndicate.

#### ***A territory with many challenges***

Ria d’Etel is located in France, in southern Brittany (département of Morbihan), between the cities of Lorient (to the West) and Auray (to the East). The site is formed by a sea arm stretching 15km inland, offering 125km of very jagged coastline and a 22km<sup>2</sup> seawater “lake”. Ria d’Etel receives water from a 360km<sup>2</sup> drainage area featuring a complex and highly ramified river system. The administrative division of this vast territory is complex, comprising 17 towns, 4 communities of municipalities, 2 county districts, etc. A joint syndicate manages water and environmental projects over the entire drainage area. With over 38,000 inhabitants, the territory boasts a number of economic and leisure activities. Primary sector activities (agriculture / shellfish farming) are important in the local economic landscape. The development of leisure activities is also significant over the area.

Ria d’Etel is a living environment with a diversity of landscapes, structured by human presence. Three main challenges define priority actions on this site:

- A rich ***natural environment*** to be protected: marine and land environments overlap considerably and many areas are protected
- ***Water quality*** (microbiological, nitrates, development of toxic phytoplankton, etc.)
- ***Cross-cutting challenges***, e.g. preserving primary activities, sharing space and resources, dialogue.

As a result of long-standing but effective dialogue between all the main stakeholders in the territory, numerous programmes have been rolled out in the territory to meet objectives in terms of preserving water quality and the natural environment.

#### ***A long history of consultation***

In 1996, European sanitary classification rules for shellfish farming sites were applied and Ria d’Etel was in danger of being classified B<sup>1</sup>. Shellfish farmers began to explore the reasons for this classification. After initially focussing on agriculture, shellfish farmers realised that the problem was not only due to nitrates but also to bacteriological pollution. At the same time, an incident forced a land farmer to illegally empty his slurry spreader into the Ria. Despite the high risk of conflict, shellfish farmers chose dialogue over a lawsuit.

The professionals formed a group to initiate discussions within an agriculture / shellfish farming professional committee. The first efforts to improve water quality led to the installation of grass bands along farm parcels on the edge of the Ria. A participative community diagnosis initiative was then taken in Locol Mendon in 2001. A long series of talks followed between land farmers and shell farmers, later joined by nature conservation societies and local politicians to improve practices and water quality. This led to a collective “territorial farming agreement”, a sustainable development tool in which the two professions made commitments in favour of a quality initiative throughout the territory.

Thanks to this initiative and the dynamics thus created, a territorial diagnosis was carried out on the entire drainage area to develop the first action plan implemented in 2005. To complete these actions, an “integrated coastal area management” project (2006) was developed and drafting of a document defining objectives for

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<sup>1</sup> Zones A: Zones in which shellfish may be gathered for direct human consumption.

Zones B: Zones in which shellfish may be gathered but may only be sold for direct human consumption after undergoing either sufficient treatment in a purification centre associated or not with relaying, or relaying.

Zones C: Zones in which shellfish may be sold for direct human consumption after long relaying or heat treatment.

Zones D: All fishing or farming activities are prohibited.

the Natura2000 site “Ria d’Etel” got underway in 2007. As these actions became more extensive and required public financing, a dedicated structure was created: the Ria d’Etel Joint Syndicate (*Syndicat Mixte de la Ria d’Etel*). The syndicate’s role consists of:

- Protecting the quality of water and aquatic environments in the area
- Managing and protecting watercourses
- Promoting the halieutical heritage
- Ensuring integrated coastal zone management
- Managing the “Rivière d’Etel” Natura 2000 project

#### ***Vital involvement of shellfish farmers***

When the Ria d’Etel joint syndicate was established, the professionals felt dispossessed of what they had put in place until then. However, they were aware of the importance of the structure and continued to get involved. Their participation in the dialogue, a prerequisite to implementing any project on the territory, proves how keen they are to preserve the environment and share the territory and its resources. Shellfish farmers also volunteer to take part in water monitoring (plankton sampling) and introduce quality systems (“sustainability and solidarity in oyster farming”). Aware, at last, of the problem of microbiological pollution, they began to wonder about their own impacts on the environment and performed diagnoses on their shellfish farms (self-criticism).

#### ***Dialogue takes time!***

Thanks to the consultation process, action today in the territory focuses on the long term and is widely accepted but it did involve a lot of time and a lot of work by a few “driving” players. Not all the measures taken have proved successful but the stakeholders have always sought to come up with ideas and anticipate regulatory changes, etc. to avoid being faced with obligations. Situations are thus questioned upstream to see what can be done to improve them.

*Ria d’Etel film: “quand le dialogue s’élargit” (“broadening the dialogue”) 2001, 18mn produced by Cedag – TPR West for AC3A, Association des Chambres d’Agriculture de l’Arc Atlantique (Association of Atlantic Arc Agricultural Chambers). Distribution: AC3A, Rennes. Tel.: +33 (0)2 23 48 23 23*

## **4. Stakeholder Perspectives of MPA Planning in South West England**

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The Crown Estate is owner of almost the entire UK seabed and is an extensive landowner created by an Act of Parliament to manage the assets of the reigning King or Queen.

Under The Crown Estate Act 1961, The Crown Estate Commissioners was formed to enhance the value of the estate and generates income to benefit the UK citizen by paying the revenue from our assets directly to the HM Treasury.

Our portfolio has a total capital value of £7.3 billion comprising Urban, Rural, Windsor and Marine Estates including Regent Street, over half of the UK’s foreshore and almost the entire seabed out to 12 nautical miles. Under the Energy Act 2004, The Crown Estate has the rights to exploit marine minerals and renewable energy resources out to 200nm (excluding oil and gas).

As well as commercialism, one of The Crown Estate’s core principles is to safeguard our Estate through effective stewardship. Marine Conservation Zones (MCZs) are essential to improve the value of the Estate through maintaining healthy functioning ecosystems.

However, the purely stakeholder led MCZ process and ambitious targets have created complex challenges resulting in the potential to have significant impact on key UK infrastructure and Climate Change policy objectives, including, renewable energy projects, international telecommunications cables and aggregate extraction. The Crown Estate has been in a unique position to participate in all four UK MCZ regional projects and provide valuable lessons learnt for MPA planning.

## 5. Experiences of the Recreational Sector in the South West Marine Conservation Zone Process

**Mike Bailey** Hon Secretary Brixham Sea Angling Club, Angling Trust, National Mullet Club, Steering Group Member and Inshore Working Group Member of Finding Sanctuary **Email:** [mikedartfisher@talktalk.net](mailto:mikedartfisher@talktalk.net)

This talk will introduce the recreational angling sector and the general concerns of this sector in the South west of England. As the representative for sea angling on the Finding Sanctuary Steering Group and the inshore working group the talk will also focus on my experiences in the MCZ planning process.

Tourism is an enormously important and developing sector within the economic and social fabric of the South West. The Finding Sanctuary process had representation from the principal boating organisation-The Royal Yachting Association (representing sailing, motor boats and jet skis), two of the main diving bodies, charter boats, recreational sea angling and spear fishing.

A 2009 survey estimates there to be 161,900 sea anglers resident in the South West and a further 600,000 visitor days. The sector is very dispersed organisationally, with many different sub-groups:

- In terms of the way they access the sea: anglers fish from the shore, from private boats, and charter boats, (often travelling as far as the Channel Islands).
- And the way they approach the sport: competitions, specimen hunters, and those who might fish from piers and jetties for a few hours on holiday.

The majority are not affiliated to local angling clubs and fewer still are members of the nationally recognised Angling Trust, which is the politically accepted voice of all angling, both freshwater and sea.

Anglers are increasingly concerned about falling catches and fewer specimen fish. There is a strong collective feeling that there is a need to start addressing the diminishing stocks and marine habitat before it is too late. Anglers want the same as the commercial fishing sector: a healthy, productive and sustainable eco-system, with lots of mature fish to catch.

There is generally an expectation that the Proposed MPAs will be areas where damaging commercial activities will be restricted or stopped, especially towed gear, including all forms of trawls and scallop dredges and in time that this will have benefits for the fishing industry.

Currently there is very little understanding of where sea angling takes place. An exercise was undertaken to interview and map all recreational sectors including sea anglers. Data collected through individual interviews and club interviews to map where anglers fished, at what time of the year, and which species they targeted. Some anglers acted as volunteers to help collect information. Only a small sample was reached, but findings were helpful when choosing reference (highly protected) areas. There were 147 interviews, of which 72 were taken on a club level and in total representing 5827 people.

It was impossible to take into account individual views of anglers. Local Groups were set up to represent the four counties, (Cornwall, Devon, Dorset and Somerset), and angling representatives were able to feed in views of their members, and help provide expert local knowledge in the development of the proposed MPA's.

During the planning process I found that it took time to understand the data and terminology and that it was a learning process for all of us. We worked with a set of building blocks to which we added, removed and changed to accommodate different objectives. In all over 500 modifications were made. Generally I feel that we reached the best possible outcome at the end of the Project. It was not what everyone would have wished for in an ideal world, but it was a fair and balanced compromise.

## 6. Governance issues emerging through MCZ design processes in SW England

Dr Peter JS Jones Dept of Geography, University College London (UCL), <http://www.geog.ucl.ac.uk/~pjones>  
Email: [P.J.Jones@ucl.ac.uk](mailto:P.J.Jones@ucl.ac.uk)

This research is based on Peter's first-hand observations of most of the Finding Sanctuary workshops, along with related background research and discussions with stakeholders. It is being undertaken as part of the EC FP7 funded research project on the monitoring and evaluation of spatially managed marine areas ([www.mesma.org](http://www.mesma.org)). The structure employed to analyse the governance issues emerging from the Finding Sanctuary processes is also being employed in another eight case studies around Europe under this project.

The key findings of this research on the Finding Sanctuary processes will be presented under the following headings:-

- Combining top-down role of state and bottom-up participative approaches
- Inter-sectoral integration and related power issues in emerging MSP framework
- Cross-border issues between countries
- Justice issues
- Influence of different knowledges and of uncertainty in decision-making

This research builds on previous UNEP-funded research on the governance of MPAs ([www.mpag.info](http://www.mpag.info)).

Dr Peter Jones is a senior lecturer in the Department of Geography, University College London (UCL). He is internationally recognised as an authority on marine protected area governance issues and has been an advisor to the European Common Fisheries Policy and England's conservation agency. He is currently undertaking a project for the United Nations Environment Programme to develop good practice guidance on how to effectively govern marine protected areas. He is also leading a work a programme on governance as part of an EC funded project (MESMA) to support the implementation of marine spatial planning in Europe's seas.

## Session 2: Working in the context of MPAs

### 7. Stakeholder involvement in the development of Managing Plans for Cedeira MPA

Agustin Perez Pernas Email: [secretaria@confrariacedeira.org](mailto:secretaria@confrariacedeira.org)

The Head of the fishermen's association of Cedeira will relate his experience in the process of creation, implementation and subsequent monitoring of the marine reserve of fishing interest Ria de Cedeira. The creation of this reserve is an example of a model bottom-up process; the idea came from the fishermen. The first thing that was created was a consensus working committee which defined the area occupied by the reserve, the different zones of protection, and management measures which were necessary for the subject work. Once approved the proposal by the working committee was presented to the Government. After being revised that proposal, the administration approved the creation of the reserve on January 29, 2009.

Thereafter the MPA was implemented and establishing a management, monitoring and control body, fisheries and biological communities monitoring starts. Based on the results of MPA monitoring the management plan was prepared. The management plan was approved by the administration on December 27, 2010.

El patrón mayor de la cofradía de Cedeira contará su experiencia en el proceso de creación, implementación y posterior seguimiento de la reserva marina de interés pesquero de la Ría de Cedeira. La creación de esta reserva es un ejemplo de modelo bottom-up, donde la idea surge de los pescadores. En primer lugar se crea una comisión de trabajo consensuada donde se definirá el área que ocupa la reserva, las diferentes zonas de protección y las medidas de gestión que se consideran necesarias. Una vez aprobada la propuesta por la comisión de trabajo se presenta a la administración. Después de ser revisada dicha propuesta la administración aprueba la creación de la reserva el 29 de enero del 2009.

A partir de ahí se implementa la reserva, se crea un órgano de gestión, seguimiento y control, comienza la monitorización pesquera, de la flota que faena dentro de la reserva, y de las comunidades biológicas.

Basándose en los resultados del seguimiento de la reserva se elabora el plan de gestión. El plan de gestión es aprobado por la administración el 27 de diciembre del 2010.

## 8. Being involved in an MPA: Fishermen's involvement in the management of Parc Naturel Marin d'Iroise

**Bruno Claquin** Member of council of management of natural marine Park of Iroise, President of the Douarnenez fishermen union (Brittany), Fisherman in the Douarnenez Bay in coastal fisheries with nets, since 2005. Previously a trawler fisherman. **Email:** [Bruno.claquin@orange.fr](mailto: Bruno.claquin@orange.fr)

The Iroise Natural Marine Park, was created in 2007, in Brittany (France). It is a new kind of marine protected area which has three main aims :

- Knowledge and monitoring of the marine environment,
- Protection of the park area : natural heritage and the significant species and habitats,
- Sustainable development of marine activities which depend on the good state of the marine environment (sustainable and reasonable use of marine resources).

The chosen method is consultation and communication among all stakeholders, through the management council, the committee, and different thematic workshops. In 2003 I was elected as the President of the Douarnenez fishermen union. I have been associated with the creation of the marine park of Iroise which was agreed in September 2007. My talk will explain how I have been involved into the management process of the natural marine park, since that time. Particularly the discussion about the management plan, to define what should be done to reach a high level of sustainable use of the marine resources within the marine park boundaries.

I will also describe how I am participating, as a fishermen representative, in different current actions of the marine park:

- reducing marine mammals bycatch
- studying and planning no-take areas for spiny lobsters
- monitoring the water quality.

I will try to explain how fishermen's opinions are taken into account in the management council which is the main important authority for decision making in that type of marine protected area. To conclude, I will describe my opinion and my personal feeling about the usefulness and the efficiency of the marine nature park for the conservation of coastal resources and for the future of the fishermen activities.



## 9. An English case study on Effective MPA Management

**Kaja Curry** Coastal Planning Co-ordinator, Tamar Estuaries Consultative Forum

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Established in 1994, the Tamar Estuaries Consultative Forum (TECF) is a broad based partnership that brings together the local authorities, government agencies, harbour authorities and associated organisations that together have a key role in managing the Plymouth Sound and Tamar Estuaries European Marine Site.

The Forum oversees the development, delivery and monitoring of the Tamar Estuaries Management Plan and provides a clear mechanism for co-operation, consultation and communications between the wide-ranging interest groups and decision-makers.

One of the oldest estuary partnerships in the country, TECF has a proven track record of reconciling conflicting issues, building a collective approach to management and enabling the full involvement of a wide range of stakeholders.

The presentation will focus on how this participatory approach works for a European Marine Site which is important for nature as well as leisure, recreation, commercial shipping and naval operations whilst additionally having a major city on its coastline.

### *Day 2: Sept 27th - Tools and techniques used in the planning and management of MPAs*

#### **Session 3: Involving stakeholders in decision making**

##### **10. Facilitating the California Process**

**Eric Poncelet, Ph.D.** Senior Director and Senior Mediator Kearns & West, 475 Sansome Street, Suite 570, San Francisco, CA 94111, USA Tel: 415-391-7900 (office) Fax: 415-391-8223 Email: [eponcelet@kearnswest.com](mailto:eponcelet@kearnswest.com)

California's Marine Life Protection Act (MLPA) requires the state to re-evaluate and redesign its system of marine protected areas (MPAs), base the redesigned system on a set of six ecosystem- and network-focused goals, and use best readily available science to inform the system's design and management. California coastal waters are also characterized by a great diversity of ocean users and uses. Over the past seven years, the MLPA has been implemented through a public-private partnership known as the "MLPA Initiative". The MLPA Initiative directly involved stakeholders in the MPA planning process through participation in regional stakeholder groups. This presentation focuses on the evolution of these regional stakeholder groups throughout the MLPA Initiative process and the adaptive approach taken by MLPA Initiative staff to address the unique attributes of California's four coastal regions. Drawing on project evaluations and staff experience, the presentation describes some of the key process design and facilitation adaptations that took place over the course of the project. Key topic areas include: stakeholder group selection and size, iterative process design, and facilitation style and approach. The presentation concludes by highlighting the key factors that contributed to the adaptive approach.

#### **Key publications for Eric Poncelet**

**In preparation** "Adapting Stakeholder Processes to Region-Specific Challenges in Marine Protected Area Planning." *Ocean and Coastal Management*.

**2004** *Partnering for the Environment: Multistakeholder Collaboration in a Changing World*. Lanham, MD: Rowman & Littlefield Publishers.

- 2003** "Resisting Corporate Citizenship: Business-NGO Relations in Multistakeholder Environmental Partnerships." *Journal of Corporate Citizenship* 9:97-115.
- 2002** "In Search of the "Win-Win": Possibilities and Limitations of Multistakeholder Environmental Partnerships." In M. Bartolomeo, A. Tukker, and T. de Bruijn (eds.) *Partnership and Leadership*. Kluwer Academic Publishers.
- 2001** "Personal Transformation in Multistakeholder Environmental Partnerships." *Policy Sciences* 34 (3-4): 273-301.
- 2001** "The Discourse of Environmental Partnerships." In *Anthropology and Environment: New Directions*. C. Crumley, ed. pp. 273-291. AltaMira Press.
- 2001** "A Kiss Here and a Kiss There: Conflict and Collaboration in Environmental Partnerships." *Environmental Management* 27(1): 13-26.

## 9. Using MarineMap and OceanPlanner

**Will McClintock** University of California, Santa Barbara (USA) Email: [mcclintock@msi.ucsb.edu](mailto:mcclintock@msi.ucsb.edu)

Marine protected area planning requires the use of decision support tools for visualising, analysing and modelling geospatial information. Historically, these tools have been designed for those with specialized knowledge of geographic information systems (GIS) and not the average stakeholder. Tools that can be used by anyone, regardless of their technical ability, will increase buy-in, transparency, and efficiency in MPA planning. Furthermore, web-based decision support tools can be developed to facilitate communication and collaboration amongst disparate stakeholders and encourage participation by more users over a broader geographic region.

"GeoDesign" is a term used to describe an iterative process of sketching spatial plans (e.g., prospective MPA designs) and receiving immediate feedback on the potential consequences of those designs (e.g., ecosystem protection, economic impacts). I will argue that web-based applications aimed at stakeholders should implement a collaborative GeoDesign work-flow that allows users to explore full range of options, share and promote prospective designs with other users, and evaluate alternatives using a common, science-based framework.

MarineMap and OceanPlanner are two web-based applications developed for collaborative GeoDesign. MarineMap, based on open source technologies, is a highly successful tool used by stakeholders for marine spatial planning along the West Coast of the United States. OceanPlanner, based on a combination of open-source and ESRI technologies, is a "next-generation" marine spatial planning tool scheduled for release in 2012. I will present the essential features of these tools and illustrate the context in which they may be deployed.

## 10. What makes a dialogue process work

**Rob Angell** Stakeholder Engagement, Facilitation and Mediation Email: [rob.angell@rkpartnership.co.uk](mailto:rob.angell@rkpartnership.co.uk)

This talk will focus on some key ingredients that are essential to a successful stakeholder dialogue process.

### 1. Appreciating what dialogue is;

Talking together all too often means debating, discussing with a view to convincing the other, arguing for our point of view, examining pro's and con's. In dialogue, the intention is not to advocate but to inquire; not to argue but to explore; not to convince but to discover.

*Louise Diamond, The Institute for Multi-Track Diplomacy* <http://ncdd.org/>

### 2. Answering some fundamental questions before embarking:

- What is "up for grabs?" or "open to influence"
- Who are the stakeholders and who will you have in a room?
- Once you have a stakeholder group; what is its role? And how will help it make progress?

3. And thinking about how to manage important factors that can undermine a process:
  - Stakeholders don't believe it is a genuine exercise
  - Doubt about whether "it" will be taken forward – what will happen with my input?
  - When there is nothing in it (no benefit) for stakeholders
  - Timing – of start & end of the process and any policy guidance
  - Will louder voices / more influential groups over-rule?
  - Confidence in speaking in public / group situations
  - Access to information
  - Time investment from participants
  - Money –cost of being involved
  - Apathy – stakeholders don't care about the issue

## **Session 4: Mapping stakeholder activity**

### **11. International Fisheries Stakeholder Engagement**

**Johnny Murt** Email: [johnny.murt@jncc.gov.uk](mailto:johnny.murt@jncc.gov.uk)

Within UK waters, fishing is by far the most widespread industry. It has therefore been essential to involve the fishing industry in UK marine protected area (MPA) projects. Unlike other industries operating in UK waters, the fishing industry is highly fragmented and representation can range from none, to being represented by regional fish producer organisations, national fishermen's federations or size selective bodies such as the New Under Ten Fishermen's Association.

The European Commission governs fisheries outside of the UK's territorial waters (beyond 12nm) through the Common Fisheries Policy, enabling equal fishing rights for all Member States. The Marine Conservation Zone project is a stakeholder led process and in such a process the opportunity for involvement should be extended to both the UK fishing industry and Member States' fisheries with interests in UK offshore waters.

One of the Joint Nature Conservation Committee's roles within the MPA process has been to identify and involve international fisheries with an interest in the UK MPA projects. In particular, encourage international fishery representatives to get involved in the regional Marine Conservation Zone projects to help minimise the socio-economic impacts that proposed sites might have on the activity of their fleets.

JNCC has supported international fisheries engagement through country specific meetings and regular update presentations to the Regional Advisory Councils. We will highlight the challenges that we have encountered throughout our international fisheries engagement and some of the challenges faced by our stakeholders.

### **12. The Recopesca Project: A new example of a participative approach to collecting fisheries and in-situ environmental data**

**Patrick Berthou** Leblond, E., Rioual, C., Laurans, M., Woerther, P., Quemener, L., Loubrieu, T.  
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Faced with the lack of data to assess precisely the spatial distribution of catches and fishing effort and for the environmental characterization of the fishing area, Ifremer has been implementing a project, known as Recopesca, since 2005. This consists of fitting out a sample of voluntary fishing vessels with sensors that record data on fishing effort (and at mid-terms catches) and physical parameters such as temperature or salinity. Recopesca aims to set up a network of sensors, for scientific purposes, to collect data allowing improving resources assessment and diagnostics on fisheries, and environmental data required for ecosystem-based management initiatives.

The challenge was to develop sensors that would not be a problem for the fishermen, tough enough to be fixed to fishing gears, self powered and autonomous. Insofar as the sample of targeted vessels intends to be representative of all the metiers and fleets, the sensors are modular and scalable to collect new data.

Different sensors have been used: (i) a temperature-salinity sensor, able to record physical parameters, depth and duration of immersion, for passive and active gears, and (ii) a specific sensor to record number or length of passive gears. A GPS monitors the position of the vessels. Each sensor is equipped with a radio device transferring the data to a receiver on-board, called "concentrator" that sends the data to Ifremer central databases by GPRS. An anti-rolling weigh-scale is currently on test to record catches per species and fishing operation.

The presentation will show the first data and results of this participative approach with emphasis on individual and collective information feedbacks.

### **13. French approaches to mapping commercial fishing activity**

**Perrine Ducloy** Fisheries officer French national committee for marine fisheries and sea farming, 134 avenue de Malakoff, 75116 Paris, FRANCE Tel: +33 (0)1 72 71 18 11 Email: [pducloy@comite-peches.fr](mailto:pducloy@comite-peches.fr)

The development of marine spatial planning, due to the increase in activities taking place in the marine environment (e.g. gravel extraction, marine energy) and the establishment of marine protected areas has resulted in the need, for the French fishing professional organization, to be familiar with the distribution of activities of fishermen and to be able to characterize the importance of fishing activities in an area. This has created a greater need for understanding and monitoring fishing activities to defend the interests of fishermen, and also to meet European obligations, such as impact assessments within Natura 2000 sites.

Information relating to fishing activities (location, data capture, gear used) from reporting requirements (log-books) and VMS data are confidential data and belong to the French Ministry of Fisheries. They are not readily available to the professional organization, and are generally only available on the scale of the ICES statistical square. However the needs are currently on much finer scales, such as the distribution of a protected habitat.

For these reasons, many fisheries committees have developed their own approach to data collection and methodologies to characterize and map the activity of their fleets.

All these projects are based on a system of exhaustive surveys of commercial fishermen. They enable highly accurate spatial data, but require a lot of time and money and could have some imprecision (particularly when questioning fishermen about past activities). Trust must be established between the interviewer and respondents, which may take time as well. A number of recommendations have come out of these projects, such as the need to provide "benchmarks" for fishermen, weather calendars, reminders of their production data, and geographical landmarks on maps used.

Examples of continuing data acquisition at a fine spatial scale include definition of "fishing strategies" of ships, repository revision of statistical reporting for routine production data to make it more accurate, and implementation of a geolocalisation system for vessels under 12 meters.

## **Session 5: Decision support tools**

### **14. GIS and planning tools within a stakeholder process – Finding Sanctuary's experience**

**Louise Lieberknecht** Email: [Louise.Lieberknecht@southwestfoodanddrink](mailto:Louise.Lieberknecht@southwestfoodanddrink)

Finding Sanctuary used a range of computer-based GIS and planning tools to aid the project's stakeholder group in their task of designing recommendations for Marine Conservation Zones. These tools included desktop GIS, a web-based interactive GIS, and the decision support tool Marxan. This presentation gives a brief overview of the tools used by the project, with a critical assessment of their value in supporting specific aspects of the planning process, and how helpful they were to stakeholders and the project team. In particular,

the presentation focuses on the use of GIS analysis within the FisherMap project (which mapped out the spatial patterns of fishing activity within the planning region, from information gathered through interviewing fishermen), and on the use of Marxan (Ball et al., 2009) to support stakeholders in making decisions. The experience of Finding Sanctuary highlights the power and fundamental importance of good use of GIS and planning tools within a stakeholder process, as well as showing some of the potential pitfalls.

Marxan key reference: Ball, I.R., H.P. Possingham, and M. Watts. 2009. Marxan and relatives:

Software for spatial conservation prioritisation. Chapter 14: Pages 185-195 in [Spatial conservation prioritisation: Quantitative methods and computational tools](#). Eds Moilanen, A., K.A. Wilson, and H.P. Possingham. Oxford University Press, Oxford, UK.

## 15. Modelling the future of MPAs – A case study of Bassin D’Archachon

**Charlotte Michel** Email: [michelterritoires@free.fr](mailto:michelterritoires@free.fr)

The creation of Natural Marine Parks in France, designated under the 2006 legislation, is being managed by the Agency for Marine Protected Areas. Each park project is managed by a specific creation team. This project aims to help these park creation teams to overcome two challenges : (1) being able to set ambitious long term environmental objectives; and (2) playing the role of facilitator among stakeholders in the area concerned, where interactions among users, property rights, and relationships to the ecosystems are different from experiences of dialogues for continental protected areas. This research project is built on the hypothesis that the ability to organise and give structure to a debate on long term objectives and evolutions constitutes an essential capacity for the park creation teams. It therefore relies on preparing a park creation team for such a debate by using foresight approaches.

This management science research project is based on the design and implementation of a foresight intervention for the park creation teams. It builds on concepts and theories from strategic analysis of environmental management, strategic management and foresight, negotiation theory.

Expected results from this intervention are the following : scenarios and foresight results that can be used by the park creation team, but also used more largely as illustration of the methodology followed. Important outputs of the intervention are also capacity building for the park creation team, and the organisation of a structured debate on future evolutions in the area. In terms of research, the project will also lead to research publication concerning participation and dialogue for environmental management, and concerning foresight.

Two Natural Marine Park projects are covered by this research, one in Brittany and Normandy, the “Golfe normand Breton”, and the second in Aquitaine, the “Bassin d’Arcachon”.

### *Day 4: Sept 29th– Using decision support tools & participatory GIS-based tools in MPA planning*

## 16. Using MarineMap and OceanPlanner

**Will McClintock** University of California, Santa Barbara (USA) Email: [mcclintock@msi.ucsb.edu](mailto:mcclintock@msi.ucsb.edu)

Marine protected area planning requires the use of decision support tools for visualizing, analyzing and modeling geospatial information. Historically, these tools have been designed for those with specialized knowledge of geographic information systems (GIS) and not the average stakeholder. Tools that can be used by anyone, regardless of their technical ability, will increase buy-in, transparency, and efficiency in MPA planning. Furthermore, web-based decision support tools can be developed to facilitate communication and collaboration amongst disparate stakeholders and encourage participation by more users over a broader geographic region.

“GeoDesign” is a term used to describe an iterative process of sketching spatial plans (e.g., prospective MPA designs) and receiving immediate feedback on the potential consequences of those designs (e.g., ecosystem protection, economic impacts, etc.). I will argue that web-based applications aimed at stakeholders should implement a collaborative GeoDesign work-flow that allows users to explore full range of options, share and promote prospective designs with other users, and evaluate alternatives using a common, science-based framework.

MarineMap and OceanPlanner are two web-based applications developed for collaborative GeoDesign. MarineMap, based on open source technologies, is a highly successful tool used by stakeholders for marine spatial planning along the West Coast of the United States. OceanPlanner, based on a combination of open-source and ESRI technologies, is a “next-generation” marine spatial planning tool scheduled for release in 2012. I will present the essential features of these tools and illustrate the context in which they may be deployed.

### **17. Integrating the use of Marxan into stakeholder-centred MPA planning: experiences from Finding Sanctuary and Balanced Seas**

**Louise Lieberknecht and Hannah Thomas** Finding Sanctuary and Balanced seas

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This presentation will focus on the ways in which Marxan (Ball et al., 2009) was used within the Finding Sanctuary and Balanced Seas stakeholder projects, to help stakeholders develop recommendations for a network of marine protected areas. Marxan is designed to be used as a decision support tool in protected area planning. It was developed at the University of Queensland in Australia. Users input a set of spatial datasets (on species distribution and habitat distribution, for example), and set a range of ecological network design parameters. Users can also input economic cost factors. Marxan can then be used to develop spatial configurations of areas that meet the design parameters, and sum them to map areas of relative conservation utility. Early in the planning process, Finding Sanctuary used the tool in an innovative way, using fishing activity data instead of ecological data to generate a map of relative fishing utility within the planning region. This helped stakeholders design a network that avoided areas where MPAs might have disproportionate socio-economic impacts. Later on, Marxan was also used in its traditional way, to generate maps of relative conservation utility, but for a number of practical reasons, these had much less impact on the planning process than originally envisaged. Within Balanced Seas, Marxan played a more prominent role, and this presentation will examine the reasons why, and how they related to the way the stakeholder processes worked.

Marxan key reference: Ball, I.R., H.P. Possingham, and M. Watts. 2009. Marxan and relatives: Software for spatial conservation prioritisation. Chapter 14: Pages 185-195 in [Spatial conservation prioritisation: Quantitative methods and computational tools](#). Eds Moilanen, A., K.A. Wilson, and H.P. Possingham. Oxford University Press, Oxford, UK.

### **18. Public engagement and web mapping – Approaches, issues and lessons**

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The UK MCZ planning process used an online interactive mapping web site to allow stakeholders to explore the available marine data and collect stakeholder data. The system was also used to present the proposed MCZ data at the various stages of development along with 130 other marine data layers. This presentation explores the technical challenges, pit falls and highlights of designing and maintaining the systems, including the spatial data handling. The presentation also reviews the approaches and solutions used to smooth the process, wrapping up with recommendations for future systems.

## 19. Design tools and communicating with stakeholders

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Tom Mullier will be discussing some of the tools and methodologies used during Finding Sanctuary stakeholder planning meetings. Throughout the MCZ planning process large volumes of spatial information have had to be effectively used and understood by stakeholders. Finding Sanctuary developed different methods of presenting this information and created reporting tools to feedback on how different choices affected network targets in real-time.

Alana Murphy will be discussing how spatial data was used and disseminated within the context of local/regional stakeholder groups and how these groups contributed to the planning process. The benefits of interactive tools such as iPDFs will also be considered in terms of their use to aid decision-making during planning meetings.

## 20. Arc-Fish (Person to person data gathering using Arc GIS)

**Greg Vaughan** GIS Officer, Balanced Seas, Regional MCZ Project for the South-east, Durrell Institute for Conservation and Ecology (DICE), University of Kent, Canterbury  
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Collection of field data from marine stakeholders using direct face to face engagement involves challenges and complexities including access, reluctance, seasonality, remoteness, diverse activities, scale etc. It is both time consuming and expensive. The work presented here was developed by the Balanced Seas (<http://www.balancedseas.org/>) regional Marine Conservation Zone project (UK) to support both its MPA planning and socio-economic impact assessment work. It was developed in late 2009 and early 2010 and builds on an existing survey methodology developed by Finding Sanctuary (UK) and international examples of using digital data collection methods to support marine planning.

ArcFish is a customisation of the interface of ESRI's ArcGIS software. It is designed to remove the complexity of the software interface and allow staff without GIS training to be collecting data in a short time. Built around a graphical user interface of simple forms, ArcFish employs standard software methods of automation, selection and validation to support both the stakeholder and the interviewer through an expatiated process.

The software was used widely throughout 2010 for data collection with the full range of marine users and has subsequently been adopted by several organisations within the UK undertaking marine field data collection work.

## 21. Fisherman (Database design and Analysis)

**Shaun Lewin** Senior GIS and Data Specialist, Finding Sanctuary, [www.finding-sanctuary.org/](http://www.finding-sanctuary.org/)  
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Over the period 2007 – 2010 Finding Sanctuary conducted approximately 900 interviews with members of the public as part of its mapping of stakeholder activity. This research served three purposes; firstly it helped the project team and decision makers visualise the relationships between human activity and the marine biodiversity, secondly, some of the outputs were critical in the evaluation of the economic importance of the Marine Conservation Zone network, lastly, the research methodology was a means for the project to engage with the general public on a broader range of issues.

Due to the range of activities being studied, stakeholder participation was absolutely critical at every stage of the process (from experimental design to the review of outputs). Naturally, this level of engagement led to the creation of a spatial database that described stakeholder activity in a way that was meaningful to the stakeholders; however this approach was not necessarily the most effective means of collecting information for the purposes of informing marine conservation.

In addition to the richness introduced by adopting a stakeholder centred approach to activity mapping, the changing role of Finding Sanctuary (from experimental pilot project to instrument of national policy) and UK legislation, all contributed to the creation of a diverse set of tools and practices. Two case studies are presented in more detail, Finding Sanctuary's methodology for collecting data and the use of commercial fishing data within a socio-economic impact assessment.

des Clers, S., Lewin, S., Edwards, D., Searle, S., Lieberknecht, L. and Murphy, D. (2008). *FisherMap. Mapping the Grounds: recording fishermen's use of the seas. Final Report*. A report published for the Finding Sanctuary project.