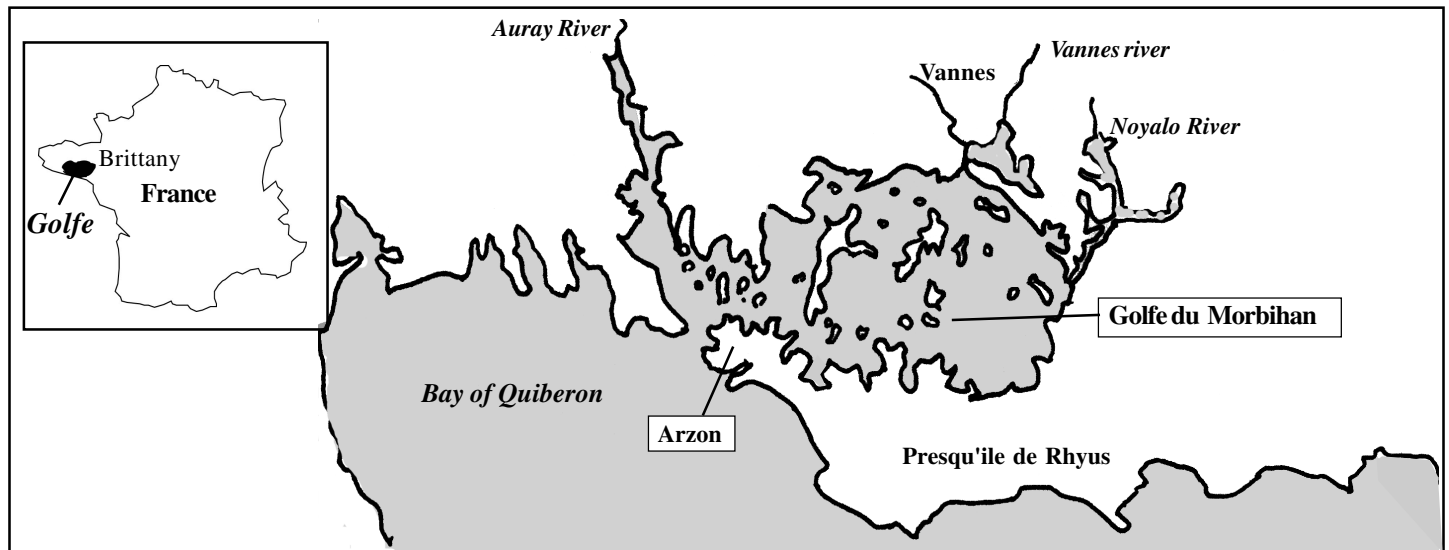




Conflict in the Golfe du Morbihan

The Golfe du Morbihan is located in south-west Brittany (Fig 1). It is an area of outstanding natural beauty that has attracted increasing tourism. Competing use of its fragile resources has a long history but the number of new tourists and the nature of their activities have added substantially to the conflicts that exist within the Golfe.

Fig 1 – Location of Morbihan in France



How the Golfe was formed

The Golfe du Morbihan in Breton means “small sea”. It measures about 20 kilometres by 16 kilometres and has an area at high tide of some 11,500 ha. This falls to a mere 4,000 ha at the lowest annual tides. It is thus an area rich in tidal mudflats, one of a decreasing number of wetlands in Western Europe.

It is effectively a low-lying **ria**, a drowned area of three converging river estuaries, the Auray, Vannes and Noyal rivers. It is the outcome of tectonic depression, river erosion and rising sea levels since the end of the last Ice Age. These have combined to create an inland sea scattered with some 60 islands, a landscape of exceptional beauty. Relative sea levels continue to rise and pose a long-term threat to the area. The entrance to the Golfe is narrow. As large volumes of water pass through the entrance between Port Navalo and Loqmariaquer, some of the most powerful sea currents on the French coast develop. Velocities of up to 3.8 metres per second can occur, (a danger to the unwary sailor or swimmer).

Ecology and Climate

The tides have a profound effect on the ecology. The turbulent movement of water provides good oxygenation and this permits a rich marine environment that is favourable to plant life, plankton, shellfish and fish. The tidal range permits extensive inter-tidal mudflats and marshland to develop. The shoreline zone hosts a range of salt tolerant plants. The primary producers support a massive and diverse population of birds. The sea also ameliorates the climate. There is a distinct micro-climate in the area, which is several degrees warmer than northern Brittany in both summer and winter. Frost is rare and this allows exotic species to flourish, such as palms.

History and Settlement

The fertile environment proved attractive to early settlers. The area is rich in archaeological remains to complement its other attractions. There is evidence of farming dating back to 6100 BP. The Neolithic settlers left a host of monuments such as stone circles, menhirs (standing stones), and burial mounds, e.g. Gavranis. From 2500BP a distinctive Celtic culture emerged.

The Romans made their mark here too - Julius Caesar is alleged to have watched the defeat of the Veneti (people from Vannes) in AD 56 from a mound overlooking the entrance to the Golfe. In the post-Roman era, the area continued to offer a living to many. Pastoral and arable farming, even a few grapes, and fishing enabled a settled community to develop around the Golfe. The ebb and flow of the tides was used to drive waterwheels that provided power to grind grain.

However, until recently the Golfe remained a relatively quiet area, remote from Paris, that lived in harmony and balance with its environment. Two things have changed that in recent years –

- tourism; and
- the economic growth of nearby Vannes and southern Morbihan in general, which has led to urbanisation.

Recent Developments

Tourism in Brittany dates back to the 19th century and the coming of the railways. It was made famous by artists and was immortalised in Jacques Tati's film “Monsieur Hulot's Holiday”. Over the past 20 years, however, the nature and scale of tourism has changed, particularly in coastal Morbihan. Although the area has good rail connections, including TGV links to Paris and Lille, most visitors now come by car. This creates its own problems –

- congestion;
- air pollution;
- visual pollution;
- parking problems;
- accidents; and
- loss of natural environment for roads and parking areas.

The type of holiday has also changed. There is now more camping and caravanning and less hotel stays.

The Second Homes – and growing development

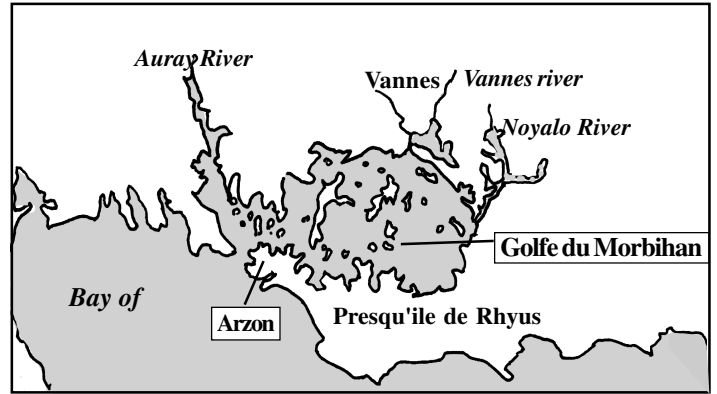
Additionally there has been a substantial growth in “residences secondaires” (second homes). Morbihan has the highest percentage of second homes in Brittany, 18 per cent. Most of these lie in the communes adjacent to the Golfe. In Arzon, for example, close to the entrance of the Golfe, over 70 per cent of the houses are second homes. On the principal islands in the Golfe, the figure exceeds 60 per cent. House prices are inflated, many new buildings go to outsiders, locals find it difficult to afford property, and there is pressure to allow more building, often in unsuitable locations. Services need to be provided for peak summer use (“estival” in French). In Arzon for example, a permanent population of c.2000 swells to over 30.000. Services such as street cleaning, refuse collecting, health services, sewage and water supply need to be more extensive than would otherwise be necessary. The new visitors tend also to be more affluent than those in the past, demanding more of public and commercial services.

The economy of Vannes has added to the pressure. In a region that has seen economic decline over much of the past 50 years, Vannes and southern Morbihan have been relative hotspots, attracting sunrise industries and a workforce to go with it. Not surprisingly, the newcomers create further pressure in the housing market and the Golfe-side properties, in particular, attract a premium.

Conflict in the Golfe

Given these developments, it is unsurprising that increasing conflict has developed over the use of the Golfe and its shoreline areas. Some of this conflict is not new. The use of agricultural chemicals has for long threatened shellfish production through eutrophication and toxicity. Pleasure sailors have interrupted the activities of fishermen and shellfish growers. However, today there is a greater intensity of use and a greater diversity of conflict. Some of these uses are listed below-

- Ports - commercial fishing and pleasure.
- Aquaculture and fishing - oysters, mussels, clams, fish, lobsters, crabs, pleasure fishing and shellfish collection (cockles), and fish farming;
- Water - supply and disposal.
- Agriculture - cattle and grain.
- Industry - boat-building and maintenance, construction and traditional crafts.
- Services - shops, cafes, restaurants, entertainment, sailing schools, swimming pools, accommodation (hotels, camping sites etc), busses, cruise boats.



- Tourist activity - bathing, walking, bird-watching, sailing, power boating, water-skiing, scuba-diving, fishing.
- Housing – flats and houses for the local population and second-home owners.
- Infrastructure - roads, utilities, waste disposal facilities.

Fig 2 shows a conflict matrix that incorporates some of these factors. To add to the potential conflicts there are major environmental assets that occupy vital sites - these include areas of unusual and rare flora as well as the prolific birdlife that populates one of Europe’s outstanding wetlands.

Fig 2 Conflicting activities in and around the Golfe du Morbihan

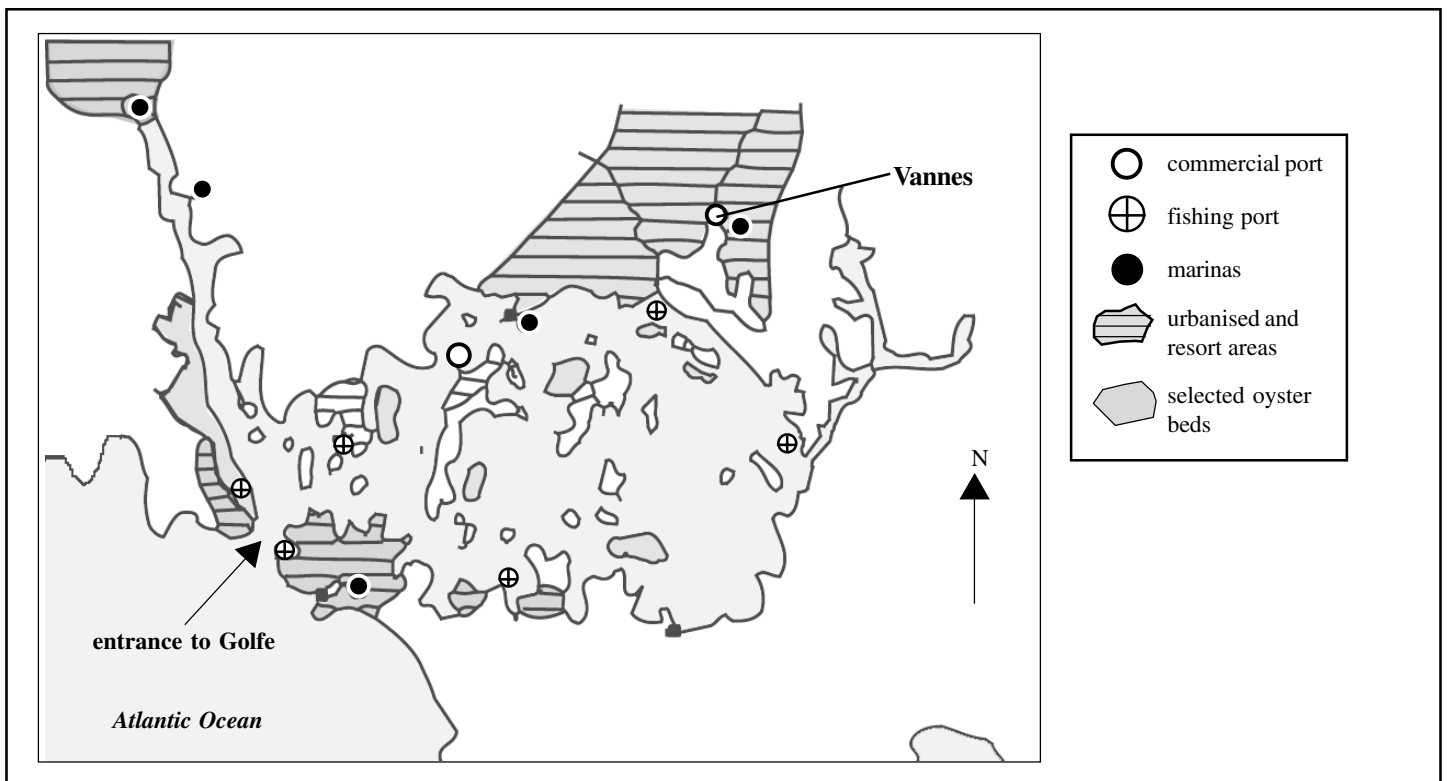
| <div style="border: 1px solid black; padding: 2px; display: inline-block;"> X minor conflict ⊗ major conflict </div> | Commercial Fishing | Pleasure Sailing | Swimming | Power Boating | Water Skiing | Angling | Shellfish Farming | Boat Building & Maintenance | Water Supply & Disposal | Cruise Boats | Wildlife | Housing Development | Infrastructure | Shoreline Commerce | Camping & Caravanning |
|---|--------------------|------------------|----------|---------------|--------------|---------|-------------------|-----------------------------|-------------------------|--------------|----------|---------------------|----------------|--------------------|-----------------------|
| Commercial Fishing | | X | X | ⊗ | ⊗ | ⊗ | | | | X | ⊗ | | | | |
| Pleasure Sailing | | | X | ⊗ | ⊗ | X | | | | X | | | | | |
| Swimming | | | | ⊗ | ⊗ | X | | | X | | | | | | |
| Power Boating | | | | | | ⊗ | | | X | ⊗ | X | | | | |
| Water Skiing | | | | | | X | | | | ⊗ | | | | | |
| Angling | | | | | | | | | X | | ⊗ | | | X | |
| Shellfish Farming | | | | | | | | | ⊗ | | X | X | | X | |
| Boat Building & Maintenance | | | | | | | | | | | | X | | X | X |
| Water Supply & Disposal | | | | | | | | | | X | X | X | X | X | X |
| Cruise Boats | | | | | | | | | | | X | | | | |
| Wildlife | | | | | | | | | | | | ⊗ | ⊗ | ⊗ | ⊗ |
| Housing Development | | | | | | | | | | | | | | X | X |
| Infrastructure | | | | | | | | | | | | | | | |
| Shoreline Commerce | | | | | | | | | | | | | | | X |
| Camping and Caravanning | | | | | | | | | | | | | | | |

Problems Arising from the Conflicts

Many problems have resulted from the pressures on the Golfe. Some of these are serious and threaten the livelihoods of the local population. Agricultural pollution (nitrates, pesticides, and phosphates), occasional untreated sewage and discharges (including lead) from a wide range of marine craft have at times threatened the locally important shellfish and fishing industries. Eutrophication develops locally and toxic algae have led to the closure of mussel beds from time to time. Discharges of oil from the tanker Erika caused severe damage in and around the Golfe and killed many seabirds. Birds are also threatened by tourist activity and loss of habitat.

The infilling of newer houses, often very close to the sea, disfigures the very landscape that has attracted the tourists in the first place. Other issues include congestion, for example, collisions between different types of marine craft. Growth in leisure boating has led to a lack of moorings and there is pressure to build more despite the recent expansion of Port Crouesty. Most boating activity disrupts other types of tourist activity such as fishing swimming and scuba-diving.

Fig 3. Map of Selected Pressures



Managing Conflict

Attempts to manage these conflicts date back many years. Environmental protection has involved designation of reserves e.g. Sene. The Conservatoire Littoral, responsible for coastal protection at the national level, has purchased land and beaches within the Golfe to help protect them. Much of the area is designated a RAMSAR site following the Convention on Wetlands, signed in Ramsar, Iran, in 1971. The convention is an intergovernmental treaty providing a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

The Loi Littoral (Coastal Law) was a domestic (French) law designed to protect land within 100 metres of the sea from development. However many purchasers have found ways round this and some authorities appear to have been lax in imposing the law, judging the extra income from such development to be more beneficial than protection of the environment.

Some critics have suggested that planning permission has been improperly given and some even go so far as to suggest that corruption exists in granting permission.

A managerial problem also exists. There are many authorities involved in what takes place within the Golfe.

These include –

- national government;
- regional government;
- departmental government;
- cantonal government;
- commune government; and
- the Conservatoire Littoral and Infremer (Coastal Research and Monitoring) and other quangos.

This diversity has made it difficult at times to get solutions. In 1964, a group of 25 communes combined to create SIAGM. Its role was originally to co-ordinate tourist development but it expanded its remit in 1994 to include environmental protection and management of environmental initiatives. Since 1999, they have focused on a more comprehensive project discussed below.

Le Parc Naturel Regional (PNR)

The idea of a PNR for the Golfe has been around for many years. In 1997, a local newspaper (The *Telegramme*) printed a special edition to evaluate the issue. Since then proposals have turned speculation into reality and SIAGM has been given the role of organising the consultation process that leads to designation of a PNR by the Conseil General. They have been doing this since 1999.

The aims of a PNR are –

- to protect the national heritage, particularly by appropriate management of nature and landscapes;
- to contribute to rational land-use planning;
- to promote economic, social and cultural development and improve the quality of life;
- to attract educate and inform the public; and
- to conduct experimental or exemplary actions in the above fields and contribute to research programmes.

(Article R244-1 of Decree 94-765 – 1994)

The designation of a park is built around a project to protect and manage the park in a rational way. SIAGM has been given the task of organising the consultation that should lead to the official designation of the Charter and the award of the official seal. The consultation has focused on –

- preserving the unique seascape;
- avoiding the standardisation of landscapes;
- controlling urban development;
- improving biodiversity;
- preserving and valuing the heritage;
- ensuring that economic development is sustainable; and
- knowledge of the environment and citizenship.

If and when the charter is awarded, an independent management organisation will be established comprising elected officials from regional, departmental and local councils. They will take advice from scientists, trade representatives of local associations and social and economic partners. Supported by a permanent team of between 15 and 30 administrators, who are expert in environmental land use and development, they are responsible for implementing the Park's Action Plan. Extensive powers will be available to enforce this plan.

An interesting aspect of PNRs is that their charters exist only for 10 years. A full review then examines and evaluates the park's success and judges whether the charter should be renewed for a further 10 years.

The key criterion in awarding a charter is that the park should have a rich natural and cultural heritage, the fragile balance of which is threatened. Few independent commentators would contest that the Golfe meets this criterion. Not everyone welcomes the idea however. At least one commune opposed the idea initially and a number of councillors have spoken out against it. Some believe it creates another layer of bureaucracy and developers fear further restrictions on construction. Some feel there are already sufficient powers in place to protect the environment. During 2004/2005, the communes will decide whether to support the project and if they do, a charter might be in place by 2006.

The Scope of the Park

The park would comprise –

- 38 communes - this is more than the 29 originally envisaged. Extension is based partly on the need to incorporate as much of the catchment draining into the Golfe as possible, since activity in the tributary areas can impact on the Golfe.
- 65,000 ha of land.
- 11,500 ha of water.
- A permanent population of 150,000.

It is an ambitious plan that appears to have good prospects, but it does involve risks. In many ways the park is under greater threat than some other PNRs.

Other Management Measures

Other projects are in-hand to address some of the Golfe's problems:

- A group of organisations is working together to assess the quality of water in the area and how it might be maintained and improved.
- Ifremer is monitoring levels of toxic algae in the Golfe using satellite imaging. This will assist authorities in making decisions about the closure of shellfish areas.
- A Geographical Information System is being developed to map the areas most prone to navigational conflict between pleasure sailors and fishermen and oyster farmers. This will enable the authorities to focus management schemes on areas of maximum conflict.
- A study is also in place to look at sedimentation in the Golfe and how satellite technology can monitor this. The SIAGM is working on projects that include –
- getting single parent mothers on benefits to work on developing floriculture;
- assisting communes in developing their local plans to conform with PNR expectations; and
- miscellaneous works to rehabilitate areas of rare flora such as salt marsh or cleaning water channels that have become clogged.

Conclusion

The Golfe du Morbihan is still an area of exceptional beauty, but it is seriously threatened by the pace of recent development. The potential conflicts in such an area have been exacerbated by expansion of tourism, in particular the growth of second-home ownership. Although some efforts have been made in the past 20 years to protect some of the most fragile areas, these efforts have lacked co-ordination at times. It is hoped that the designation of a PNR may produce a unified approach to managing the Golfe's fragile environment, though this is not yet certain. However, many pressures are intensifying. The PNR authority, if it is established, will face a major challenge in managing the diverse commercial, recreational and other interests. Those who love the mystical, magical beauty of this exquisite seascape hope that they will succeed.

References

- Allain R et al (1994) *Geographie et Amenagement de la Bretagne* Skol Vreizh
 Belz J et al (2000) *Morbihan* Bonneton
 Case R (1999) *Brittany* Hodder

Websites

- www.bretagne-environnement.org
www.region-bretagne.fr
www.conservatoire-du-littoral.fr
www.parc-naturels-regionaux.tm.fr
www.golfe-morbihan.fr
www.ramsar.org

Most of these websites are in French though the parc naturel site has sections in English

Key Terms

- Parc Naturel Regional *Regional Nature Park*
 Conservatoire Littoral *Coastal Council, responsible for buying and protecting valuable coastal sites.*
 Ifremer *French Institute for Research into Exploitation of the Sea*

Acknowledgements; This Factsheet was researched and written by Robert Case who is a Senior Lecture at University College, Winchester (King Alfred's) and former Team Leader and Examiner. Curriculum Press, Bank House, 105 King Street, Wellington, Shropshire, TF1 1NU. Geopress Factsheets may be copied free of charge by teaching staff or students, provided that their school is a registered subscriber. No part of these Factsheets may be reproduced, stored in a retrieval system, or transmitted, in any other form or by any other means, without the prior permission of the publisher.
 ISSN 1351-5136