Sustainable river management: Roding & Kissimmee

Roding

- In Essex
- Drains a small agricultural and heavily urbanised catchment
- Meandering pattern, diversity of habitat
- Older, harder schemes (straightening, dredging, gabion walls, sheet piling and realignment) are now being replaced

Larch stakes on the outside bend prevented erosion
Moisture loving alders were planted to stabilise banks & offer evapotran.

Deflector Groynes

These introduce a variety of velocities and depths, encouraging biodiversity and a mixture of erosion and deposition, reintroducing meanders.

Map

Mid Stream Gabions

These simulate a pool and riffle effect, creating areas of varying depth and turbidity.

Kissimmee

Before management

- 165km in length
- A low lying and flat area
  - » A gentle gradient led to low velocity of flow (therefore big A)
  - » This made it vulnerable to flooding
- An integrated river/floodplain wetland habitat
  - » With wading birds
  - » Water fowl
  - » And lots of fish
- Some ranching and farming

Management

- A hurricane in 1947 acted as the catalyst for management of this increasingly urbanised area
- Channelisation took place
  - » Straightened and deepened (165-90km)
  - » 2500 ha of wetlands lost
- Deep trenches built across plain for drainage and future developments

Results (1970-)

- Waterfowl had decreased by 92%
- Low flows in certain sections led to low oxygen& depleted fish stocks
- Neighbouring wetlands became starved of alluvium

Sustainable Management (1997-2010)

- 100km^2 restored to wetlands
- 70km of canal back to meandering river
- Aims to:
  - » Restore ecodiversity by allowing controlled flooding
  - » Improve water quality to increase fish stocks
  - » Increased recreational opportunities
  - » To provide opportunity for increased ecological education

A straightened stretch of the Kissimmee