WF4313/6613-Fisheries Management

Class 20–Lentic habitat

In the news

Red Lobster Criticized For Decimating Biscuit Populations Along Cheddar Bay

Friday 12:01pm · SEE MORE: BUSINESS ⌄

CHEDDAR BAY, ME—Warning that local stocks had been depleted to dangerous levels, environmentalists criticized Red Lobster on Wednesday for its part in decimating biscuit populations along Cheddar Bay. "It's no coincidence that the biscuit population has dropped an alarming 84 percent since Red Lobster was founded in 1968," said Roger Gross,

HOW TO TURN FISHERMEN INTO CONSERVATIONISTS

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Published on: Saturday, 21 October, 2017

New technology may allow regulation by effort rather than quotas

My recent Times column on Britain's opportunity for fisheries reform post Brexit:

A richly abundant sea fish population is one of the great wonders of the world that my generation has rarely seen. Last week I was lucky enough to be aboard a boat off California, surrounded by five humpback whales, more than 2,000 common dolphins, plus hundreds of sea lions and shearwaters.

Among the few British waters the fishing industry cheaply betrays a chance to fish a policy. The prin...

On leaving, Britain exclusive economic fisheries around conservationists.

Michael Grove, this. His starting approach, so the best many fish...

Such ITQs work well in Iceland and the Falklands. A vital ingredient is rapid reaction to the latest data, shutting down a fishery that is getting overfished and releasing extra quota in one that is richer than expected: no CFP-like waiting for bureaucrats to meet. However, ITQs work poorly in mixed-species areas where boats cannot cleanly catch a quota of one species. They also tend to concentrate ownership of quota in the hands of a few large owners — something that is creating pressure for reform in Iceland at present. Also, Britain effectively already operates a de facto ITQ system in the way it administers its EU quota share.

The alternative method of regulation is "effort-based". In this system the government would give each vessel a limited number of days at sea, based on an estimate of how much would be caught. As long ago as 2005 Owen Paterson MP, then the shadow fisheries minister, recommended this system after an exhaustive study of fisheries policies around the world. He is again pushing it, as are many fishermen who see it as a way of allowing more operators to remain independent in the industry: good for the economy of ports.
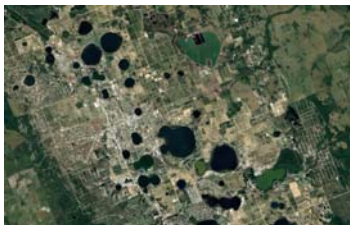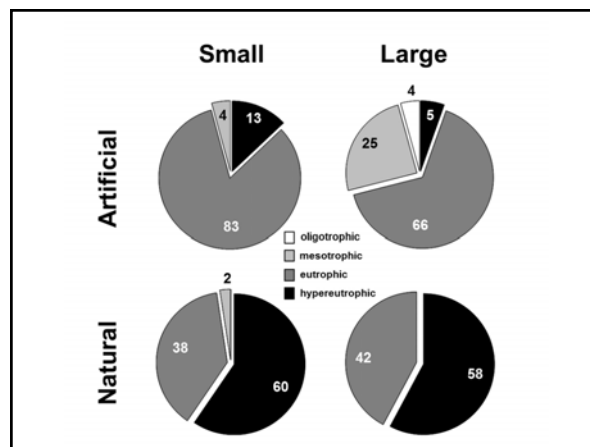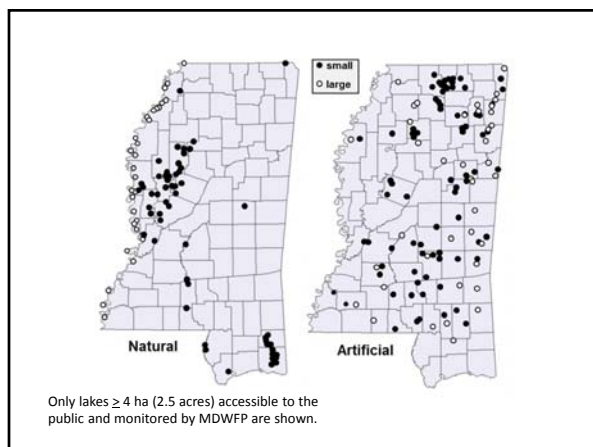
Announcements
Exam November 1…

LENTIC HABITAT

Lentic habitat: major types

1. Glacial lake
2. Oxbow lakes
3. Reservoirs
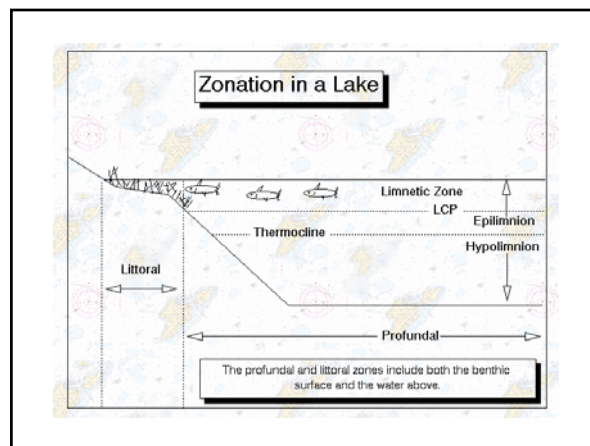4. Circque lakes
5. Terminal lakes
6. Sinkhole lakes

Birth of an oxbow

1985 250

10 km

Only lakes ≥ 4 ha (2.5 acres) accessible to the public and monitored by MDWFP are shown.
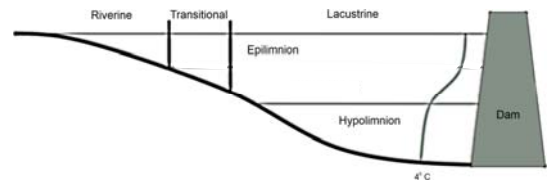

Lentic versus lotic habitat

- Lotic
  - Flow
  - Geomorphic controls
  - Pools, runs, riffles…
  - Discrete habitat units
- Lentic
  - Little flow
  - One large habitat unit?

Lake zones

- Littoral-near shore area where sunlight penetrates all the way to the sediment and allows aquatic plants (macrophytes) to grow.
- Limnetic- well-lit, open surface waters in a lake, away from the shore. The vegetation of the littoral **zone** surrounds this expanse of open water and it is above the profundal **zone**. This is the main photosynthetic body of the lake.
- Epilimnion-the top-most layer in a thermally stratified lake, occurring above the deeper hypolimnion.
- Hypoliminion- the lower layer of water in a stratified lake, typically cooler than the water above and relatively stagnant.
- Profundal-a deep zone of an inland body of freestanding water, such as a lake or pond, located below the range of effective light penetration.

Reservoir habitat

Lake & reservoir habitat stressors

- External loading
    - Sediment & Nutrients
- Water quality
- Non-native species
- Water withdrawals
- Fish kills
- Residential development

Lake & reservoir habitat management

Sediment management
- Sediment settling basins
- Watershed restoration
- Sediment bypass
- Dredging

Lake & reservoir habitat management

Nutrient management
- Settling basins
- Watershed restoration
- Bypass
- Aquafir restoration
- Rain?

Lake & reservoir habitat management

Non-native species management
- More to come later in semester

Lake & reservoir habitat management

Fish kills management
- Aerators
- Water quality restoration

Lake & reservoir habitat management

Residential development
- Coarse woody debris additions
- Shoreline remediation