VizAtlantis

fish610.080 EAFM Tools: Atlantis

Haley Frater

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About VizAtlantis

VizAtlantis is a tool to visualize fisheries scenarios from the Atlantis model and can be found here https://mfdb.rhi.hi.is/shiny/VizAtlantis/
The tool shows simulations the ecosystem of Icelandic waters from 1948 to 2012. It can be used to visualize how the ecosystem had evolved if different management had been in place. Scenarios with different fishing mortality, selectivity, or discarding can be observed and compared.

The scenarios

Fishing mortality:
F0.50 = F1 decreased by 50F0.75 = F1 decreased by 25F1 = Historical fishing mortality.
F1.25 = F1 increased by 25F1.5 = F1 increased by 50F2 = F1 doubled.
F5 = 5 times F1.

Selectivity:
sel1 = Historical selectivity (L0.5 = 87cm).
dec1 = Lower selectivity for juveniles (L0.5 = 90cm).
dec2 = Lower selectivity for juveniles (L0.5 = 93cm).
inc1 = Higher selectivity for juveniles (L0.5 = 84cm).
inc2 = Higher selectivity for juveniles (L0.5 = 80cm).

How it works

The tool has five tabs: About, Fishing mortality, Selectivity, Discarding and Scenarios. The About tab has short description of the tool and the model. The Fishing mortality tab shows scenarios where different fishing pressure is applied to one group (cod). In the Selectivity tab the effect of changed selectivity can be observed. The effects of discarding can be visualized in the discarding tab, and in the Scenarios tab a mix of fishing mortality, selectivity and discarding scenarios can be observed.

Fishing mortality

You can chose different fishing mortality of cod in the tick boxes. Here the historical fishing mortality (F1) is chosen and where it has been decreased by 25

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ERROR: HTTP Error 404: Not Found
Traceback (most recent call last):
  File "/srv/sites/tutor-web-2/src/tutorweb.content/tutorweb/
    data.setData(self._urlConvert(orig))
  File "/srv/sites/tutor-web-2/src/tutorweb.content/tutorweb/
    resp = urllib2.urlopen(urllib2.Request(script))
```

Fisheries in Icelandic waters

Background

Fisheries have been very important for the Icelandic economy for decades and in 2014 one million metric ton was harvested and the fisheries contributed 8.3

In 1976 days-at-sea were reduced to try to limit the catch of the overexploited cod stock but without success. In 1975 the quota system was introduced for pelagic stocks and in 1984 for the cod and other demersal species but the management was also partly effort based. This still did not result in complete control of the total landings as they kept going over the recommended. Individual transferable quota (ITQ) system was implemented for all fisheries in 1990 with minor exemptions. This resulted in better control over the total landings and made the fisheries more economically efficient. A discard ban was first put into action in 1977 for six demersal species and in 1996 a discard ban was carried out for all fish species. The Icelandic fisheries management systems includes measures to prevent discarding such as ITQ related measures, gear restrictions and closed areas but despite these efforts discarding still exists in Icelandic