***Sustainable Fisheries Goal Implementation Team Executive Committee***

# ADOPTION STATEMENT

## Invasive Catfish Policy

Blue catfish (*Ictalurus furcatus)* and flathead catfish *(Pylodictis olivaris)* are indigenous to the Mississippi, Missouri, and Ohio River drainages. They are considered a non-native, invasive species within the Chesapeake Bay ecosystem and were introduced in the 1960s to 1970s. Both species are long lived and fast growing. They exhibit an opportunistic, generalist feeding strategy that becomes predominantly fish-based at an early age (Fabrizio *et al.* 2011*)*.

Since their successful introduction, their range has expanded significantly and could be posing a threat to native species throughout all major Chesapeake Bay river systems in Virginia and Maryland (Fabrizio *et al.* 2011). In addition to expanding ranges influenced by unauthorized redistribution (Fabrizio *et al.* 2011), these nonnative catfish species may also be altering lower trophic levels through hypothesized top-down cascade (McPeek 1998; MacAvoy, *et al*. 2008). Recent results from electrofishing sampling indicate that blue catfish represent up to 75% of the total biomass in portions of the tidal James and the Rappahannock rivers (Schlosser *et al.* in press).

Invasive catfish species share certain biological characteristics that are believed to enhance the likelihood of their establishment in new environments, including a diverse diet, adult trophic status as apex predators, long life span, large body size, high salinity tolerance, and parental care of young (Table 1; Morris and Whitfield 2009; Fabrizio *et al.* 2011). Flathead and blue catfish are likely causing detrimental impacts throughout their expanding range, potentially creating unbalanced ecosystems. Their innate behavior as aggressive predators pose potential negative impacts on the ongoing work to restore native species (i.e. shad and river herring) that support valuable recreational and commercial fisheries in the Chesapeake Bay (Fabrizio *et al.* 2011) and serve important ecological functions.

The Sustainable Fisheries Goal Implementation Team Executive Committee believes that the potential risk posed by blue and flathead catfish on native species warrant action to mitigate their spread and protect against possible ecological impacts. The Sustainable Fisheries Goal Implementation Team Executive Committee agrees to work together to:

- Initiate a public awareness campaign on invasive blue and flathead catfish;
- Improve our scientific understanding of blue and flathead catfish biology and population dynamics;
- Develop a set of management measures aimed at controlling populations and mitigating adverse effects of blue and flathead catfish;
- Develop models that will aid in better understanding the potential impacts of non-native species on the fish community;
- And, create an online decision support tool integrating coordinated assessments of non-native catfish populations' risk of expansion and ecological resource valuation to identify high-risk/high-value opportunities for containment and mitigation programs.

December 19th, 2011

Sustainable Fisheries Goal Implementation Team Executive Committee

FOR NOAA _____

FOR MD-DNR _____

FOR DC-DDOE _____

FOR PRFC _____

FOR VMRC _____

FOR ASMFC _____

FOR VDGIF _____

***Table 1.*** Predictors of invasiveness for blue and flathead catfishes (adapted from Morris and Whitfield 2009). Propagule pressure refers to the density of individuals introduced, the number of introduction events, and the frequency of introductions. In addition to the predictors shown in the table, short distance to native source, young age at maturity, large egg diameter, and long reproductive season have been identified as additional predictors of invasiveness, however, none of these apply to the two catfishes.

| Predictor | Blue catfish | Flathead catfish | Reference |
|---|---|---|---|
| High propagule pressure | ? | ? | Marchetti *et al*. 2004a<br>Marchetti *et al*. 2004b<br>Colautti 2005<br>Jeschke & Strayer 2005<br>Jeschke & Strayer 2006 |
| Prior invader | X | X | Kolar & Lodge 2002<br>Marchetti *et al*. 2004a<br>Marchetti *et al*. 2004b<br>Ribeiro *et al*. 2008 |
| Large native range | X | X | Marchetti *et al*. 2004a<br>Marchetti *et al*. 2004b |
| Environmental tolerance | X | X | Kolar & Lodge 2002<br>Marchetti *et al*. 2004a<br>Marchetti *et al*. 2004b<br>Vila-Gispert *et al*. 2005 |
| Long life span | X | X | Marchetti *et al*. 2004a |
| Large body size | X | X | Marchetti *et al*. 2004b<br>Colautti 2005<br>Duggan *et al*. 2006<br>Ribeiro *et al*. 2008 |
| High adult trophic status | X | X | Marchetti *et al*. 2004b |
| Broad diet | X | | Kolar & Lodge 2002<br>Ruesink 2005 |
| Fast growth | | X | Kolar & Lodge 2002 |
| High fecundity | X | | Jeschke & Strayer 2005<br>Jeschke & Strayer 2006<br>Vila-Gispert et al. 2005 |
| Parental care | X | X | Marchetti *et al*. 2004a<br>Marchetti *et al*. 2004b<br>Jeschke & Strayer 2005<br>Jeschke & Strayer 2006 |

Literature Cited

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