Genetics, Hatchery, Stocking Working Group Discussion
February 10, 2011
NMFS Sturgeon workshop; Alexandria, VA

Hatcheries

To what extent are hatcheries valuable?

1. Provide experimental fish
2. Develop reliable research techniques
3. Assist if stocking is deemed necessary in areas where populations are extirpated (functionally or otherwise)
    a. Collaboration with genetics community to establish optimum breeding protocol

Summary of General Discussion:

- Fundamental role that hatcheries can play
    - Regions of genetic discontinuity with ASN (GOM, Mid-Atlantic) may be viable location for stockings/ reintroductions. This would not necessarily focus on maximizing genetic diversity, but rather trying to test population reestablishment and see how well fish adapt. Worst case scenario outcome would be that Hudson and GOM fish are being brought back together.
        - Viable method for reconnecting populations
        - Zones of discontinuity would be ideal areas for reestablishing connectivity between populations
        - Reestablishing these zones don't necessarily mean direct matings and stocking, but rather transplanting fish to understand adaptation or spawning and stocking young of year etc.
        - Section 6 could be potential funding source
    - Need to have evolutionary perspective with respect to recovery program moving forward and implementation
        - Best management practices with respect to DPSs should not constrain our ability to recover the species rangewide
        - As population declines genetic diversity increases b/c less individuals
        - The identification of adaptive features may best be protected by maintaining evolutionary potential in the form of the following rather than protecting specific phenotypes:
            - Heterogeneous landscapes – allows adaptive traits to come out, but not necessarily to one specific area
            - Migratory corridors - understanding specifically where certain fish are offshore (e.g., Altamaha)
            - Viable populations
- Taking into consideration any new approach to stocking/ research utilizing hatchery fish etc. ASN Stocking Protocols should be revisited.
        - 1 approach would be to bring in multiple females from year to year and return within the same year

        - Could capture effort in field facilitate collection of females, though consideration needs to be given to potential for capture of a female from an imperiled river.

Research Questions

Research Questions and other questions for consideration:

- Extirpated Rivers
    - What is going on in certain rivers that don't have fish?
    - Are they not robust?
    - Is there some habitat factor that is limiting?
- Could captive population be established of captive pops for multiple rivers from varying geographic range to test genetic traits?
- Could regions of genetic discontinuity with ASN (GOM, Mid-Atlantic) be viable locations for stockings/reintroductions? Effort would not necessarily focus on maximizing genetic diversity, but rather trying to test population reestablishment and see how well fish adapt.
- What are the associated permitting requirements with maintaining existing and/or new captive populations of Atlantic sturgeon if they are listed?
- What are the associated permitting requirements for conducting research both in the hatchery and wild using captive populations?

Action Items Regarding Passage

- Possible revision to ASN stocking protocols in consideration of research questions/ new approaches to stocking and ASN management.
- Permitting guidance necessary for maintaining and/ or establishing new captive populations of ASN and using hatchery fish for scientific research in the wild and hatchery.
- Explore options for additional funding opportunities for rehabilitation of ASN facility at Lamar, PA.