The response text below was taken as written in emailed responses from NY DEC Region 8 except where noted.

[Question] Effects of Tiger Musky on Tioga / Chemung River Fishery?

Most people I talk to say the smallmouth fishing is great...lots of fish but no size. Maybe they are being harvested as soon as they are legal.

I highly doubt that the present musky/tiger population is impacting the bass fishery to any extent. Just not enough of them in there to cause a decline in the smallmouth population, which I don't believe is happening either.

I would say the same would be true for walleyes. And yes, the tigers/muskies, although very opportunistic, would prefer to feed on the very plentiful suckers in the river.

[Question] Fishing better in the past?

As far as fishing 20-30 years ago...I have rarely heard any report that it wasn't always better in the past.

[Question] Pike size and egg quantity relationship?

Anyway, as for the pike fecundity (or egg production), most literature I have read egg production is roughly 10,000 eggs per pound. I've read upper limits generally around 290,000 eggs (big pike). In New York, females generally mature at age 3-4 and males age 2-3.

[Question] Musky size in the Tioga / Chemung River Fishery?

In general, literature suggests that the hybrids grow faster than the pure strains of fish. However, their average life expectancy is lower and maximum attainable size is also generally lower. That being said, if there are pure strains of musky in the river, the potential exists for fish in the upper 40's to maybe 50+". However, I would assume this to be an extremely rare case. There is plenty of forage in the Chemung River, and I would think overall pressure is relatively light (i.e. anglers specifically targeting them). This bodes well for fish to attain a trophy size. However, as you have mentioned, the number of pockets with suitable habitat and structure is somewhat low, and more concentrated efforts (for species other than muskies) probably occur in these areas making the likelihood of encountering these larger fish more probable.

I do not know if you have tried the Tioga River at all for Esocids, but I would definitely give it a try. We did some sampling there and turned up a few (albeit not many) really nice tigers in some of the deeper bridge pools.

[Question] Miscellaneous information on various species in the Corning area river systems?

Catfish - yes there are channel cats in the Chemung River. I have heard reports of some nice cats coming from the Elmira area. Additionally, I think the Susquehanna River also has a fair population. As for the Cohocton, I have not heard nor collected any and doubt they are there. The Tioga has the possibility to have cats, but again, have not heard of any. We recently sampled about ½ the river from close to Pa to close to the Canisteo and did not find any. I would tend to say they are not there. Based on reports and what we've seen, I would say the lower Chemung from Elmira downriver would be your best bet.

Carp- Carp can play havoc with aquatic ecosystems. They root up aquatic vegetation causing increased turbidity in these areas. This causes losses of zooplankton and aquatic insects (forage) as well as potential spawning areas for perch and other species that rely on vegetation for spawning. These situations are typically more apparent in lentic waters such as lakes and ponds. That being said, I do not believe that carp have recently caused any collapse in the smallmouth fishery in the Chemung. The river is loaded with bass, just not very many big ones. The carp have been here for some time and can not point to them for any recent effects that you may be noticing.

Smelt - I will defer Cayuga Lake questions to region 7. You will need to talk to Jeff Robbins. I can get you information if you are interested. As far as Seneca Lake, what we think is happening is that the zebra mussels through their filtering capabilities have reduced plankton that both alewifes and smelt rely on for food and have impacted the base of the food chain. The lake trout, are directly impacted by the lack of food. We have noticed that growth and condition of the fish has decreased in recent years. However, we also believe that the decline in smelt, which also prey heavily on lake trout eggs and fry, in addition to spawning habitat created by zebra mussel shells has resulted in an increase in naturally reproduced lake

trout in Seneca Lake. Our most recent nettings along with fin clips of stocked fish suggest that almost 70% of fish we have collected are naturally reproduced trout.

Forage - I think the trout are primarily feeding on alewives, deepwater sculpin, and mysids or freshwater shrimp. Our stomach analysis tends to support these conclusions. Trout up to about 12-14 inches tend to have stomachs full of the freshwater shrimp. Although we think alewife numbers are down, they do not appear to have been decimated like the smelt. Anglers typically have mixed reports about the alewives and all concur on the smelt.

Zebra mussels - Zebra mussels excrete a "pellet" know as a pseudo feces. Apparently, crayfish seem to feed on these a lot. Hence, more and bigger crayfish definitely benefit smallmouth fisheries. I am not sure how long zebra mussels or there larvae (veligers) can live out of water. I have to look this up and see if I can get back to. Generally, if you can dry out for a period of 48 hrs, we think that pretty much takes care of them. However, if there is some moisture around, they can probably hang on a little longer and I don't know what that time period is.

Sturgeon - Lake sturgeon are not found in Seneca as of yet. There may be rumors around that they exist, but none have ever been documented with pictures or turned into us...sort of like the mountain lions we hear about all the time. As for Cayuga, I know they have had a restoration project on-going, but I do not know about the population. I will again defer to Jeff Robbins in R-7.

[Question] Musky reproduction / stocking in Waneta and Lamoka Lakes?

There is no natural reproduction of muskellunge in Waneta. Lamoka was lasted stocked with muskellunge in 1980.

[Question] Potential walleye egg predation?

White Perch in Great Lakes Danger to Walleye Population:

http://www.iisgcp.org/EXOTICSP/white_perch.htm

NOTE: Answers below from 'The Next Bite' website (http://www.thenextbite.com)
Gobies, white perch, and ruffies come to mind. All invasives to the Great Lakes.

Sheep Head (Fresh water drum).

[Question] Tiger musky stocking in the Chemung?

Tiger Muskies were last stocked as surplus fish in the Chemung River from Corning to Wellsburg in 2000 (10,000 fish) and 2001 (4,900 fish). This is not an annual stocking and will only happen in years that we have surplus fish in the hatchery system. These fish are not pure muskellunge but rather a cross between a musky and a northern pike. It is always possible that fish from Pa. could be washed downstream. In fact we have seen tiger muskies and hybrid stripped bass in the river that were stocked in Pa. in the past. If Pa. does stock muskellunge in the upper river they could show up in New York.

[Question] Finger Lakes forage bases?

Conesus Lake - yellow perch is the main forage here with sunfish & alewives also important to the forage base. White suckers are also present.

Waneta/Lamoka Lakes - very large population of panfishes that provide forage, including sunfish, perch & crappie along with alewives. White suckers are also present.

Seneca Lake- alewives are the main forage here now as smelt are very hard to find at the present time. We see lake trout eating sunfish, pickerel and any other thing they can get their lips on. When things get tough they eat what ever they can find.

[Question] Musky / Pike preferred forage (from Canadian DNR)?

It is rare that large esocids are killed by large centrarchids [panfish] because of the geometry (depth). They seem to know that these items are dangerous. There is one published paper, many years ago, and I would refer to it as one of a set of notes of anomalies, where a large pike was found dead with a rock bass stuck in its mouth. How this normally works is that the spines

of these fish puncture the isthmus, which is soft tissue between the bottom of the gills that holds the heart and the dorsal aorta.

Spiny-rayed fish are not preferred. There are a couple of studies that show this-one by George Beyerle years ago in Transactions of the American Fisheries Society and some others that escape me at the moment. But I can add that I've looked at stomach contents of a fairly large number of muskellunge, and these large fish prefer large-bodied, soft-rayed species. In the upper St. Lawrence River, it's actually redhorse suckers. And record-sized pike in northern Lake Huron used to be caught feeding on lake whitefish in the fall.

The paper that I wanted to remember that might be of use to you is by Allen Keast and his graduate students at Queen's University. They could be published in Journal of the Fisheries Research Board of Canada. They look at gape size of fish and prey.

[Question] Brockport fish study of Waneta and Lamoka lakes.

http://lamokawaneta.com/FishStudyRpt.htm

[Question] General information on Waneta and Lamoka lakes.

http://lamokawaneta.com

[Question] Smallmouth health in Tioga and Chemung rivers?
NOTE: The following answer came from the PA DEC.

I have little current information on the PA portion of the Chemung River. I can tell you, however, that smallmouth, walleye, and sunfish populations were in good shape up until the most recent surveys in the early 1990s. Thus, it's unlikely that any current population declines are related to the 1972 flood. Acid precipitation and past fishing pressure are also unlikely culprits. Acid precipitation is not a concern for the Chemung because this river is sufficiently fertile to buffer atmospheric acid input. Excessive harvest will produce a "cropped" population in which there are many small fish but few large fish. From your note, it sounds like there aren't many fish present at all.

We are investigating declines in smallmouth populations in the Susquehanna River south of Harrisburg, and NY DEC is concerned about smallmouth populations in their portion of the river. We don't yet know what's causing these declines, but whatever the problem is, it may be affecting the Chemung River as well.

Declines in the lower Susquehanna began in the mid 90's. You can find much more information here:

http://www.fish.state.pa.us/pafish/bass_black/meetings/00bass_meetings.htm

http://www.fish.state.pa.us/pafish/bass_black/meetings/faq_smb.htm

http://www.fish.state.pa.us/pafish/bass_black/smb2006/2005_juniata_mortality.pdf

Text from the following link (http://www.fish.state.pa.us/newsreleases/2005/smb_skin.htm) is below:

PFBC PROBING INFECTION IMPACTING YOUNG SMALLMOUTH BASS IN SUSQUEHANNA WATERSHED
July 26, 2005

The Pennsylvania Fish and Boat Commission (PFBC) today said that it has identified the common bacterial agent causing skin anomalies in young smallmouth bass at various locations throughout the Susquehanna River watershed and is working to learn more about its impacts.

Infected smallmouth bass PFBC biologists making their annual collections of young-of-year smallmouth bass over the past several weeks have observed an unusually high number of the fish with skin lesions. At the same time, recreational anglers have been making reports of seeing dead and dying young smallmouth in a variety of locations throughout the river system.

Examinations of afflicted fish have revealed that an infectious bacterial agent is responsible for the skin condition and for the mortalities. The bacterial agent, Flavobacterium columnare (columnaris), is a common soil and water bacteria. While harmless to humans, columnaris can infect all species of freshwater fish. Columnaris disease is a secondary infection brought on by environmental or nutritional factors that stress fish.

Fish health can be caused by a combination of environmental and other factors that do not individually cause significant problems, but collectively are sufficiently stressful to cause disease. Although a pollutant has not been ruled out in the current fish loss, a discrete pollutant doesn't usually cause mortality or stress over an area as large as the affected section of the Juniata and Susquehanna Rivers.

The specific stress factors associated with the current smallmouth bass infections are hard to pinpoint, but most likely include high water temperatures and low dissolved oxygen levels. Columnaris mortalities are known to occur when water temperatures exceed 65 degrees; Susquehanna River temperatures have exceeded 80 degrees during the ongoing annual field sampling. Likewise, Commission biologists have recorded low dissolved oxygen readings from the waters they have sampled. Recently on the Juniata River, dissolved oxygen was measured at 4.65 milligrams per liter at 9 a.m. Overnight dissolved oxygen levels can be expected to dip below daytime levels; anything below 4.0 mg/l can be stressful to fish.

Smallmouth bass young-of-year inhabit shallow, near shore areas, where water temperature can be expected to be highest and dissolved oxygen levels lowest. While some adult smallmouth bass and adult white suckers have been reported to exhibit the anomaly being seen in the young bass, those occurrences have been very low.

Although water pollution has not been completely ruled out in the current fish loss, pollutants rarely impact just one species of fish. Likewise, a single pollution event doesn't usually cause mortality or stress over an area as large as is being documented. Reports from biologists and anglers indicate the fish disease is being seen primarily in the Juniata River downstream of Lewistown and the Susquehanna River downstream from Sunbury to below Harrisburg. Lighter incidences have been reported from the West Branch Susquehanna River, the North Branch Susquehanna River, Loyalsock Creek, and Penns Creek. To date, the fish flesh anomaly has not been reported from the other major rivers of Pennsylvania such as the Delaware, Lehigh, Schuylkill, Allegheny, and Ohio.

Tissue samples from Juniata River smallmouth bass are also being tested for other fish pathogens by U.S. Fish and Wildlife Service staff at the National Fish Health Laboratory in Lamar.

The long-term impact of this outbreak on bass populations in the affected areas is also a bit of an unknown. PFBC biologists have annually made collections of young-of-year smallmouth bass since the late 1980s. The purpose of the measurements is

to index the density of the bass year-class produced which provides insight to the density of adult smallmouth bass several years into the future. It takes about 3 to 4 years for young smallmouth bass to reach the legal size of 12 inches, so the index helps biologists predict the density of adults 3 or 4 years into the future. Since 2000, production of young smallmouth bass in the Susquehanna drainage has been below average due to high spring flows and cool temperatures. The impacts of those weak year classes are now being seen in somewhat lower catch rates by recreational anglers.

In 2005, preliminary results suggest young of year smallmouth bass density will be better throughout most of the Susquehanna system. The persistence of columnaris infections, however, may change that estimate. For example 46% of the smallmouth bass examined from a Juniata River sample show the presence of columnaris bacteria. The ultimate strength of the 2005 year-class will likely be determined by the persistence of high temperatures, low dissolved oxygen levels, and other factors that collectively are sufficiently stressful to cause disease and mortality.

[Question] Why walleyes did not do well in Cowanesque?
NOTE: The following answer came from the PA DEC.

Cowanesque is a good largemouth fishery, and dense largemouth populations can cause walleye stockings to fail. But, many other factors can be involved as well. Cowanesque likely does not have appropriate thermal/oxygen habitat for walleyes in the summer months. Most often, there are no easy answers.

[Question] I have often heard that such barbs dissolve quickly in a fish's digestive tract and, likewise, I have heard that if a fish breaks the line and has hooks in its snout, they will dissolve in a few days. Is there truth to this? Let's assume we're talking about normal hooks vs. anti-corrosive saltwater hooks.?
NOTE: The following answer came from the PA DEC.

There has been no official research on the subject. This website http://www.dnr.state.mn.us/fwt/back_issues/december98/ask_dnr.html provides a good general discussion.

[Text from the above link is below]

> **DNR Division of Fish and Wildlife - Winter 1998**
>
> **Ask the DNR**
>
> *Q. In its statements on catch-and-release, the DNR says it's better to leave a deeply embedded hook in a fish's mouth and cut the line than to rip the hook out. The hook will supposedly dissolve. But how do biologists know this? en*
>
> A. There is no existing scientific research on the topic, but DNR fisheries biologists have observed fish surviving with hooks in various stages of "being dissolved" in their bodies. And many anglers have caught fish with a partially dissolved hook in its gut.
>
> Many variables determine how fast the hook will dissolve, and if the fish will survive at all. These include hook location (throat, stomach, mouth, etc.), hook size, fish size, temperature (most reactions occur faster at higher temperatures, so a hook would probably dissolve faster in the summer than in the winter). A hook in the mouth may dissolve, but it could also work loose and fall out. A hook in the mouth might hamper feeding behavior, but only temporarily.
>
> A hook in the gill, however, will almost always prove fatal because it interrupts the respiratory process before it gets a chance to dissolve. Hooks in the stomach will nearly always dissolve, if internal organs have not received life-threatening damage from the hook (such as during a fight between fish and angler).
>
> How long does it take for a hook to dissolve? Again there are lots of variables, such as hook size and fish size. DNR fisheries biologists estimate that it would take roughly two to three weeks for an average hook to be dissolved by the average fish without too much indigestion.

[Question] During the early to mid 90's, the Cowanesque was stocked with walleye including a couple of years where millions of fry were stocked. I was wondering if someone fishing the Tioga and Chemung Rivers during that time and shortly thereafter would have benefited from a mild but noticeable improvement in walleye fishing? By same token, considering that most walleye fisherman that I know are catch-n-keep fisherman, would these individuals notice a mild decline in walleye fishing in these rivers following the termination of walleye stocking in the Cowanesquue? NOTE: The following answer came from the PA DEC.

It's certainly possible that walleye from Cowanesque could have benefitted populations in the Tioga and Chemung Rivers. The fry that we stocked wouldn't have amounted to anything but the fingerlings might have. It's also possible that wild walleye populations in the rivers were higher during those years. We don't have any data, so we can't say say one way or the other.

We hope to sample Cowanesque in 2009 but I don't know yet if that will happen. We can't sample Cowanesque until we're able to purchase additional gear. This is because of the zebra mussel invasion.