Glacial Relict Species:

Couesius plumbeus – this may be an interesting species to look at Boreal, fluvial, rare

Lake chub; a boreal species, glacial relict – disproportionately found within larger, colder lakes in the Adirondacks. Some populations seem to be acid tolerant, and are thus found in more acidic lakes. It can be rare to locally common depending on the region. Typically, it associates with trout lakes and is a good indicator species. It moves into streams from its preferred lake habitat in the early spring in order to broadcast spawn over rocky rubble.

“Studies of the distribution and biology of the lake chub in the Adirondacks may merit special attention in order to evaluate its possible decline”.

Hybognathus hankinsonii – Boreal, lacustrine, common

Brassy minnows; upland form derived from great lakes or missippian region. Likes shallow, silt bottomed bog ponds. May be locally common. But rare in some parts of the Adirondacks. Typically associates with finescale dace, northern redfbelly dace, and fathead minnow. Diminutive forms whose abundance and distribution appear to have declinesd with the introductions of piscivores like yellow perch, smallmouth bass, chain pickerel, northern pike ect.

Chrosomus neogaeus- Boreal, Bog, lacustrine, rare

Finescale dace; less common than chrosomus eos. Subject to confusion with C. eos. In watershed surveys during the 1900s it was considered to be common throughout small ponds. Commonly found in stained waters of boggy places. Typically avoids more actively moving water

Pimephales promelas- boreal, fluvial, rare

Fathead minnow minor element in southern uplands, more common in headwaters of systems tributary to St. Lawrence river. It likes sluggish, upland waters like bogs and beaver ponds. It may be a relatively new derivitate of Mississippian refugium facilitated by canal systems and being a bait fish

Rhinichthys cataractae- Boreal, fluvial, common

Longnose dace – much less common than R. atratulus. Likes faster movingstreams with rapid rocky waters. And in storm washed rocky shores of larger lakes. It does go into the uplands. Stream sedimentation may be delitarious to dace. May have gotten here from several refugia as it is widespread across US.

Semotilus margarita-

Northern pearl dace = Semotilus margarita nachtriebi in watersheds associated with St. Lawrence river. Locally common in headwater streams, bog waters, and shallow pools formed by beavers. Boreal, BFL, common

Southern pearl dace = Semotilus margarita margarita found in lowlands, clearer, unstained waters. Needs better definition between the two subspecies. A,A BFL, C

NOTE: looks like after rotenone, after two years later, species other than common sucker and brook trout (stocked) had a hard time recolonizing the lake

Catostomus commersoni – Boreal, Fluvial, Laucastrine, Common

White sucker; widespread and abundant throughout the lakes. Occurs in most lakes, ponds, and streams. Young is very vagile, helping it spread. But its northernly distribution and presence above large waterfalls shows it might be a long-standing member of fauna. Perhaps entering from several refugia with receding glaciers. Two or more source areas.

It is strongly benthic and may have some influence on other species as an egg eater. Its stream spawing attracts yellow perch as they are also oovores. As a youth, it plays a large part as a forage fish for lake trout, northern pike and other piscivorous species.

Castomus castomus – Boreal, Fluvial, Laucastrine, Common

Longnose sucker; northern counterpart to the white sucker. The southern part of its range is in the colder waters of the Adirondacks. It is commonly prey for the lake trout. Position of this species in new York populations, relative to northerly center of its distribution, suggests that this species will be lost from lakes and streams at lower elevations and will become restricted to higher elevations. Recent collections confirm this trend.

**NOTE**: influence of bottom feeding forms of brown bullhead as well as other forms of suckers may be interesting to study in the context of nutrient transfer from the substrate to the water column

Notropis heterotepis- Boreal, Boggy, Laucastrine, R

Blacknose shiner; seems to be found more on the peripheral lowlands outside fo the park. It likes shallow, weedy, slough like areas of lakes and ponds. Tributaries of small streams. Bottom is silted, with bog plants.

Culaea inconstans- Boreal? Laucastrine, common

Brook stickleback; found mostly n heavily vegetated parts of rivers and marshes. It is high in elevation but limited in distribution. It may have been a relict of the glacial period when Lake George was connected to lake champlain or it may actually be a bait bucket introduction. But almost never found within Adirondack waters

Cottus cognatus- Boreal, Lacaustrine, common

Slimy sculpin; probably more common than reported because lake sampling methods don’t get its actual behavior. Prefers cold, rocky waters and may range into the deepest available with its predator the lake trout. As a baitfish it may be more extensive in range than previously. But it needs trout waters, so it may have been lost from many lakes recently undergoing eutrophication. Eats mostly arthropods, may also harvest modest numbers of fish larvae and eggs

Others:

Umbra limi –

Central mudminnow; only native to lake champlain sector. Tolerant of low oxygen conditions, has modifie4d air bladder. Is used as baitfish and has been introduced to other Adirondack lakes outside of its usual region. Favors stagnant, weed-chocked shallows. Plays ‘irrelevant’ trophic role and considered a minor species by George 1990.

Esoglussum maxillingua –

Cutlips minnow; seems to be more of s stream shepcies versus a lake species and is found more commonly in stream habitats. Although we do see it in some of the prominent lakes within the Adirondacks. Unfortunately, it has decline in abundance and distribution potentially because of stream siltation.

Hybognathus nuchalis regius –

Eastern silvery minnow; there is also a western silvery minnow subspecies. Both possibly deserve species status. Eastern may be introduced into western lakes by bait pails. Probably separated by glaciation.

Notemigonus crysoleucas crysoleucas-

Golden Shiner -the northern subspecies, most widely distributed cyprinids of Adirondack Park lakes. Most, if not all, of upland Adirondack populations are the result of introductions. Most frequently used as bait. It has a very variable diet. Xooplankton, filamentous algae, very omnivorous. May have given it the competitive advantage to outcompete many endemic Adirondack minnows. Typically, it likes shallow, vegetated lakes. Mather 1884 did not report this species.

Notropis bifrenatus –

Bridle shiner, or Cayuga minnow; marshy lagoons of large rivers and peripheral lowlands of Adirondacks. It isn’t really found that much in the interior. It seems to be an important forage fish for warm water piscoviroes. Probably survived glaciation in the eastern areas of New York in the Atlantic drainage basin and is beginning to expand westward

Notropis cornutus –

Common shiner; one of the more common species within the park, has been seen as historically abundant. Used to be two subspecies but now separated into species. Notropius cornutus is the common shiner, typically cooler upland waters, having smaller scales. Notropic chrysocephalus is now the striped shiner and seems to be more of a warm water species, having larger scales and being found mostly in lowland waters. Because of its tolerance of warmer waters, it may be able to get through a constructed channel that is turbid and warm.

Notropis volucellus-

Mimic shiner; seems to be restricted to lowlands and lower streams below waterfalls. It is distinctive in that it is restricted to the northern lowlands of the park. Possibly indiciating Mississippian origins and an inability y to transverse the erie and champlain barge canals.

Notropis heteroden-

Blackchin shiner; reported in Rich lake in Essex county, Brant and Look lakes, and Bird Pond in the upper Hudson watershed.

NOTE – 12 species of Notropis have some likelihood of occurring within the park, but only one has widespread dominance within park boundaries. Many others are restrticted t9o lowlands waters. Blackchin and spotfin shiners do have an interesting distribution in certain upland lakes, suggesting they maty be relicts within the park. “Certainly the current distribution of notropi in the Adirondacks remains in serious dispreapair with the most recent authoritative studies being those of J.R. Greeley and his associates in the 1930s. Given the remarkable amount of commentary about the decline of the minnows of the Adirondacks with the advent of the yellow p erch, smallmouth bass, and others, studies on this and other cyprinid genera of the Adirondacks seem highly desirable.”

Chrosomus eos –

Northern redbelly dace; common in bogs, boggy lakes, small acid ponds, and sluggish stream pools. Its hard to identify becvcause of frequent hybridization with finescale dace. It is common in many prominent lakes, but hard to know because of successful hybrid offspring

Pimephales notatus-

Bluntnose minnow; common in lake champlain and major rivers of peripheral lowlands but is a minor element in uplands. We think it may have reentered from Mohawk-Hudson system relatively recently. Like more silty conditions, so it may be more common in disturbed sectors of the park. Regular bait fish

Rhinichthys atratucus atratulus-

Blacknose dace; abundant in Adirondack uplands but the eastern subspecies. Common to abundant in small, clear, graveled streams with rapidly flowing waters. It is in at least 82 of the prominent lakes. Although not as common in larger water bodies, especially those with introduced piscivores (yellow perch). **I wonder if they used to like these larger lakes but piscivores pushed them out?** Ubiquity in upland Adirondacks suggest it was a relatively early arrival from Atlantic refugium after deglaciation and one of the more common, major components of primeval ichthyofauna.

Semotilus atromaculatus-

Creek chub; may be most abundant fish in Adirondacks. Found in most smaller lakes, ponds, and upland headwater streams. Many large lakes also have it. It avoides open, deeper waters including larger streams and rivers. Its lack of range in Hudson by and northwestetern candida show that it might not be well suited to periglacial conditions which make its presence in Adirondacks confusing. May be extremely vagile and transient. Also used as bait fish. May be in decline as indicated by other fishes using their typical spawning habitats.

Fundulus disphanus –

Banded killifish; scattered distribution seems to suggest that it may be bait dispersed

Lepomis gibbosus –

Pumpkinseed; presence above major waterfalls indicates that it may have been periglacial fauna. It may be a competitor of brook trout or serve as prey (in juvenile form) to other piscovores. Which may be why its larger in some lakes without piscoviores. Continues to feed in winter, on zooplankton, so it may be part of ice fishery