

## Species Status Assessment

**Class:** Osteichthyes (bony fishes)  
**Family:** Cyprinidae (minnows)  
**Scientific Name:** *Notropis procne*  
**Common Name:** Swallowtail shiner

### Species synopsis:

Swallowtail shiner occur from New York southward to South Carolina. It is found in medium-sized streams with clean gravel and there are some records from lakes. It is native to 3 of 18 watersheds and was introduced to the upper Oswego watershed. There is a clear decline in the Susquehanna and a possible decline in the Chemung, but populations have remained stable in the Delaware watershed.

### I. Status

#### a. Current and Legal Protected Status

- i. Federal Not Listed Candidate: No  
ii. New York SGCN

#### b. Natural Heritage Program Rank

- i. Global G5  
ii. New York S2 Tracked by NYNHP No

### Other Rank:

### Status Discussion:

This species is globally ranked as Secure and ranked in New York as Imperiled (NatureServe 2012).

**II. Abundance and Distribution Trends**

**a. North America**

**i. Abundance**

\_\_\_ declining \_\_\_ increasing   X   stable   X   unknown

**ii. Distribution:**

\_\_\_ declining \_\_\_ increasing   X   stable   X   unknown

**Time frame considered:** Based on G5 global rank

**b. Regional**

**i. Abundance**

\_\_\_ declining \_\_\_ increasing   X   stable \_\_\_ unknown

**ii. Distribution:**

\_\_\_ declining \_\_\_ increasing   X   stable \_\_\_ unknown

**Regional Unit Considered:** Region 5 – Northeast

**Time Frame Considered:** \_\_\_\_\_

**c. Adjacent States and Provinces**

CONNECTICUT                      Not Present   X                        No data \_\_\_\_\_  
MASSACHUSETTS                      Not Present   X                        No data \_\_\_\_\_  
ONTARIO                              Not Present   X                        No data \_\_\_\_\_  
QUEBEC                                Not Present   X                        No data \_\_\_\_\_  
VERMONT                                Not Present   X                        No data \_\_\_\_\_

NEW JERSEY                              Not Present \_\_\_\_\_                      No data \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    \_\_\_\_ increasing              X   stable            \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining    \_\_\_\_ increasing              X   stable            \_\_\_\_ unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not Listed \_\_\_\_\_ SGCN?   No  

PENNSYLVANIA                              Not Present \_\_\_\_\_                      No data \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    \_\_\_\_ increasing              X   stable            \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining    \_\_\_\_ increasing              X   stable            \_\_\_\_ unknown

Time frame considered: \_\_\_\_\_

Listing Status: \_\_\_\_\_ Not Listed \_\_\_\_\_ SGCN?   No

**d. NEW YORK**

No data \_\_\_\_\_

**i. Abundance**

declining  increasing  stable  unknown

**ii. Distribution:**

declining  increasing  stable  unknown

Time frame considered: \_\_\_\_\_

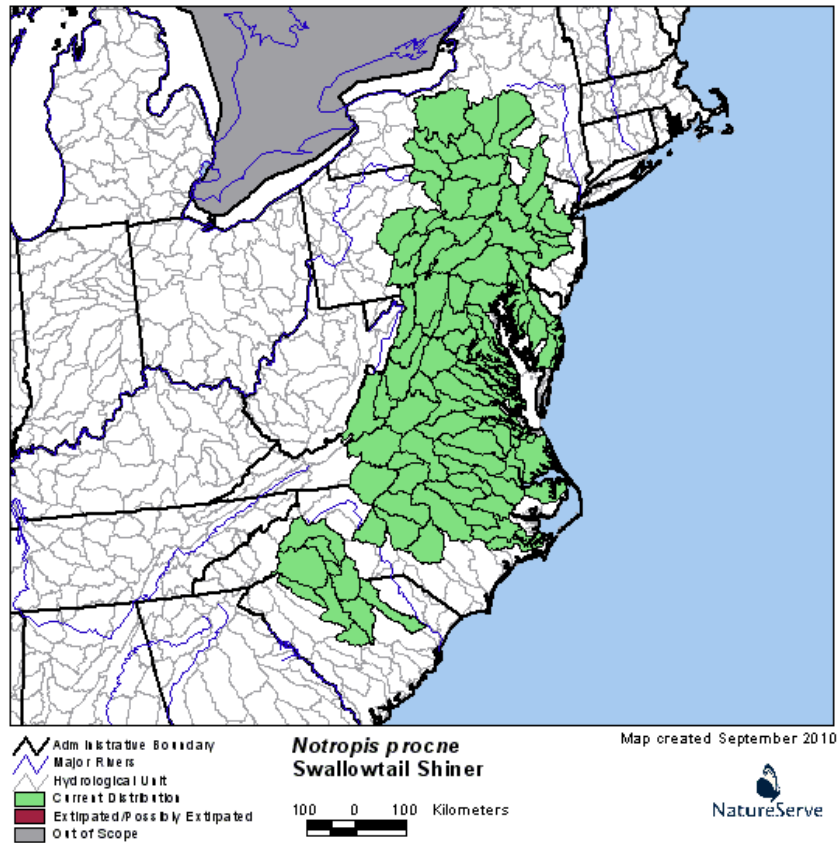
**Monitoring in New York.**

Monitoring programs are carried out by the NYSDEC Rare Fish Unit, 1998-2012.

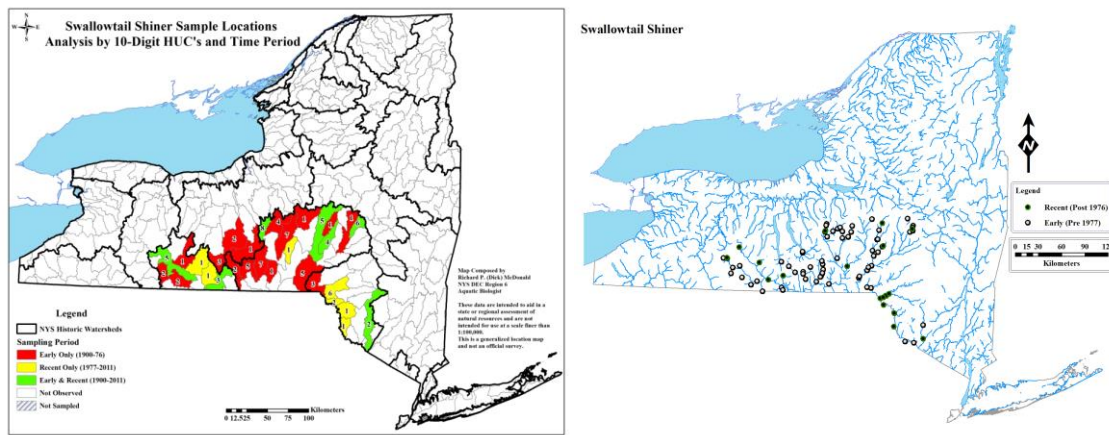
**Trends Discussion:**

In New York, swallowtail shiner was historically found in over 50 (still in at least 20) waters and their range is possibly declining (or gone or dangerously sparse) in 1 of the 3 watersheds. Their abundance has declined in many streams of the Chemung watershed, there has been a significant decline in frequency occurrence between 1930s and 2000s in the Susquehanna, and their population is unknown in the Delaware. The number of records statewide in the 1930's was 79, 1940-74 had 77 records and 1975-present had 21 records. The effort was not consistent between these periods and records were primarily from DEC.

The distribution of this species among sub-basins (HUC 10) within the 3 native watersheds has changed in a similar pattern, with fewer HUC units in the recent period. Overall there are records from 28 of the units for all time periods, and from recent times there are 14 units, or a loss of some of its former range in Susquehanna. Statewide, the number of individual site records for this species has been 233 for all time periods, 31 in the last 30 years, and 25 since 1993.



**Figure 1.** U.S. distribution of swallowtail shiner by watershed (NatureServe 2012).



**Figure 2.** Swallowtail shiner distribution in New York, depicting fish sampled before 1977 and from 1977 to current time, shown with the corresponding HUC-10 units where they were found and the number of records.

Watershed name	Total # HUC10	Early only	Recent only	both	Watershed status
Chemung	7	3	2	2	
Delaware	6	1	4	1	
Susquehanna	15	10	1	4	
sum	28	14	7	7	
Oswego	2	3	0	0	loss

**Table 1.** Records of rare fish species in hydrological units (HUC-10) are shown according to their watersheds in early and recent time periods (before and after 1977) to consider loss and gains. Watersheds where they are non-native are marked in grey. Further explanations of details are found in Carlson (2012).

### III. New York Rarity, if known:

Historic	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
prior to 1977	_____	<u>202 site records</u>	<u>3/ 18 watersheds</u>
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	_____

#### Details of historic occurrence:

Swallowtail shiner was moderately widespread in the Susquehanna, Chemung, and Delaware watersheds. Two additional early locations were outside of these basins and in tributaries of Lake Ontario: in Catharine Creek (1926 and 1972) and Fair Haven (Lee et al. 1980). Smith (1985) says it occurred here as result of post glacial colonization or as transported because of the canal, and it appears they no longer exist there.

Current	<u># of Animals</u>	<u># of Locations</u>	<u>% of State</u>
Since 1977	_____	<u>31 site records</u>	<u>3/ 18 watersheds</u>

#### Details of current occurrence:

Swallowtail shiner still occur in the Delaware, Susquehanna and Chemung watersheds, but they appear to be less common in the Chemung. They are gone from the Oswego where they were called nonnative. The most recent records in the Susquehanna/Chemung basin were four by Smith, two by Cornell Univ., two stored at the NYS Mus. and eight others since 2001. The records by since 2001 include Mud Creek of Canisteo R. (DEC), Chemung River (DEC), Butternut Creek (DEC), Catatonk Creek (Cornell U), E. Br. Tioughnioga Creek (S. Coglin, ESF) and Unadilla R. (S. Coglin, ESF). The most recent records in the Delaware basin were at Fishs Eddy in E. Br. Delaware R. (by DEC in 1995,

2001 and 2003), from the mouth of Callicoon Creek (USGS, Ross in 1994), from the Delaware R. below Hancock (by Phil. Acad Sci. in 2004) and from a tributary of the Delaware R. (NYS Museum in 2001).

**New York's Contribution to Species North American Range:**

<p><b>% of NA Range in New York</b></p> <p><input type="checkbox"/> 100 (endemic)</p> <p><input type="checkbox"/> 76-99</p> <p><input type="checkbox"/> 51-75</p> <p><input type="checkbox"/> 26-50</p> <p><input checked="" type="checkbox"/> 1-25</p>	<p><b>Classification of New York Range</b></p> <p><input type="checkbox"/> Core</p> <p><input checked="" type="checkbox"/> Peripheral</p> <p><input type="checkbox"/> Disjunct</p> <p><b>Distance to core population:</b></p> <p><u>200 mi</u></p>
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**IV. Primary Habitat or Community Type:**

1. Medium River, Low-Moderate Gradient, Assume Moderately Buffered, Transition

**Habitat or Community Type Trend in New York:**

Declining  Stable  Increasing  Unknown

Time frame of decline/increase: \_\_\_\_\_

Habitat Specialist?  Yes  No

Indicator Species?  Yes  No

**Habitat Discussion:**

The swallowtail shiner is found in warm, moderate to low gradient, clear to often turbid, small to moderate sized streams, and it is tolerant of sandy bottoms and turbid water conditions. It usually occupies pools and slow runs with sand, gravel, or rock bottom (Smith 1985, NatureServe 2012). It

is usually seen in schools near the bottom and co-inhabits spawning piles of rocks with river chubs, in Virginia (Smith 1985, Jenkins and Burkhead 1994).

**V. New York Species Demographics and Life History**

- Breeder in New York**
- Summer Resident**
- Winter Resident**
- Anadromous**
- Non-breeder in New York**
- Summer Resident**
- Winter Resident**
- Catadromous**
- Migratory only**
- Unknown**

**Species Demographics and Life History Discussion:**

The swallowtail shiner has a relatively short life span. Spawning occurs in late spring and early summer. This species lives 2-3 years, some maturing at 1 year (NatureServe 2012).

**VI. Threats:**

Threats to this species have not been identified. There have been no studies to assess its threats, limiting factors or overall vulnerability. It is apparently tolerant of turbidity. Argent et al. (1998) felt that it was among the PA species with the most reduced distribution.



**Are there regulatory mechanisms that protect the species or its habitat in New York?**

No       Unknown

Yes

The Protection of Waters Program provides protection for rivers, streams, lakes, and ponds under Article 15 of the NYS Conservation Law.

**Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:**

Conservation actions following IUCN taxonomy are categorized in the following table.

Conservation Actions	
Action Category	Action
Land/Water Protection	Resource/Habitat Protection
Land/Water Management	Habitat/Natural Process Restoration
External Capacity Building	Alliance & Partnership Development

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for the swallowtail shiner.

**Habitat Restoration:**

---- Habitat losses and restoration are part of a State Wildlife Grants project from 2003 that are directed at the Susquehanna watershed.

**Population Monitoring:**

---- More sampling is needed in the Susquehanna and Delaware Basins

**VII. References**

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