

Presentation 4, Julie Butler, May 6th, 4pm

Free Range Rivers for Aquatic Wildlife

Essential Question:	Why is aquatic organism passage important and how can we work to improve habitat connectivity?
Vocabulary:	Habitat Fragmentation – disconnection of previously connected habitats, in rivers or anywhere Migration – movement of animals from one region to another, often seasonal Nature-like fishway – structures that mimic natural side channels and provide passage around migration barriers

- Today, we have a better understanding of how important river connectivity is for aquatic creatures and for the general health of a riparian environment. Julie Butler, Fish Biologist for the US Fish and Wildlife Service in the Lake Champlain basin, will talk about this issue today.
- Some migratory fish, like salmon and trout, require connectivity between different habitats in order to complete their life cycles. These are often the same fish that are highly valued by recreational and commercial fishers. As we've learned, dams are one of the major type of obstructions to preferred, high quality habitat.
- Besides migratory fish, what other aquatic organisms depend on habitat connectivity to survive?
- Dams that remain in use, but which can prevent full connectivity, often require creative solutions by engineers and biologists to allow fish passage for certain species. Fish ladders have long been one (often imperfect) solution to this problem. Today, some dams even employ electric lifts or even special trucks to physically move fish up and around key dam sites.
- **Reflection:** What other questions or dam related topics did this presentation bring up for you? What kinds of skills are needed to carry out Julie Butler's work?
- **Extension:** Investigate a major Lake Champlain tributary near to you. What kinds of migratory species inhabit this waterway and what kinds of efforts are ongoing to improve habitat connectivity there?

<p>Fish Passage and Dams</p>	<p>U.S. Fish & Wildlife Service. Fish and Aquatic Conservation, National Fish Passage Program. Accessed 5/4/2021 https://www.fws.gov/fisheries/fish-passage.html</p> <p>John Waldman. Blocked Migration: Fish Ladders on U.S. Dams Are Not Effective. Yale Environmental 360, April 4, 2013. https://e360.yale.edu/features/blocked_migration_fish_ladders_on_us_dams_are_not_effective</p>
<p>Creative Fish Passage</p>	<p>Vermont PBS. “Outdoor Journal – Salmon in the Winooski”. March 17. 2017. https://www.youtube.com/watch?v=RewGEgzzuYc</p> <p>US Department of Energy. “Whooshh Innovations’ ‘Salmon Cannon’ Gives Fish A Boost Over Dams.” December 9, 2016. https://www.youtube.com/watch?v=2z3ZyGlqUkA</p>