



Maine's Drug Take Back Program

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MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Protecting Maine's Air, Land and Water

38 M.R.S. 1612 Drug Take Back Stewardship Program

P.L. 2021, ch. 94 - *An Act To Support Collection and Proper Disposal of Unwanted Drugs* was enacted during the First Regular Session of the 130th Legislature



Drug Take Back Stewardship Program

- Entirely funded by drug manufacturers
 - No cost to participants or taxpayers
- Run by Approved Stewardship Organizations (SOs)
 - Med-Project
 - Inmar
- Law enforcement/DEA may participate



38 M.R.S. 1612

- Designed to prevent improper diversion, abuse, accidental exposure of drugs to people, children, and pets
- Designed to keep Active Pharmaceutical Ingredients (API) out of Maine groundwaters, surface waters, and environment



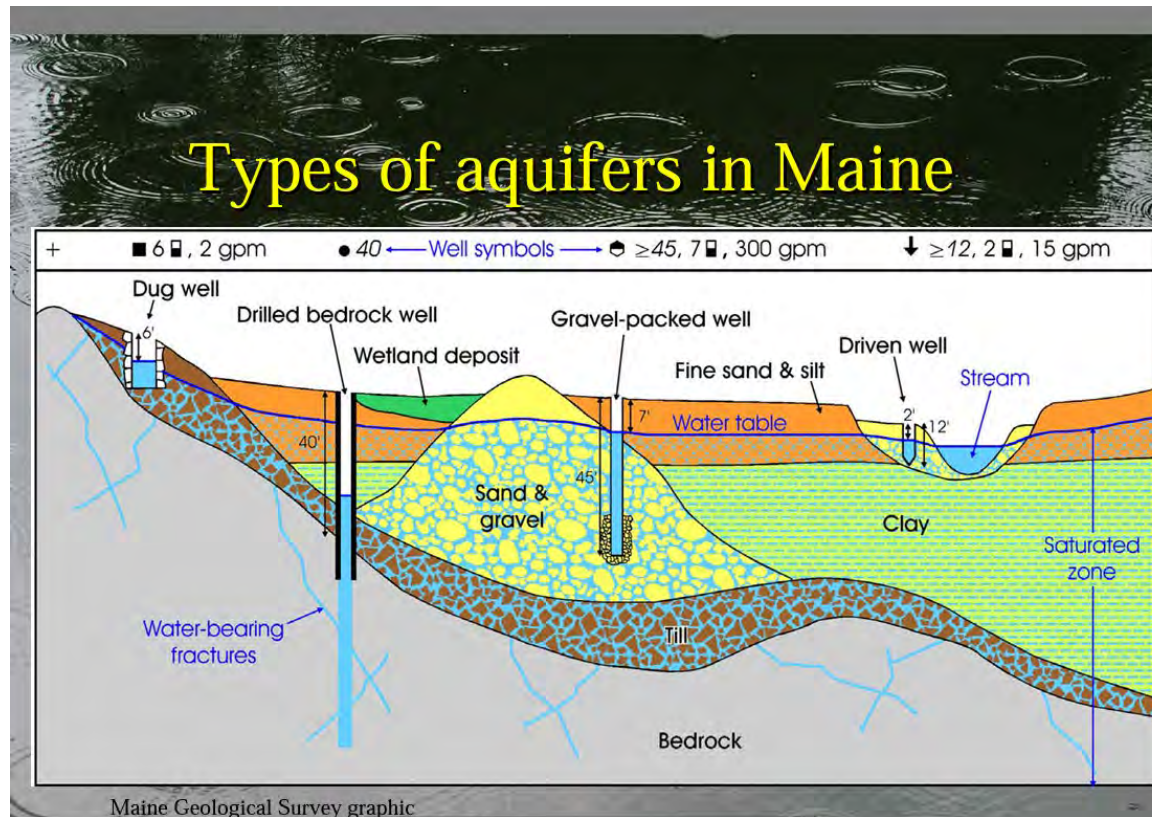


38 M.R.S. 1612

- Keeping drugs/pharmaceuticals out of the groundwater/drinking water
- What happens when you flush unused drugs?
 - Septic systems
 - Community water treatment plants
 - Biosolids/Sludge (63% USGS)
 - Landfills (trash disposal)



Protection for Maine drinking water



Maine Water Ground Water Use Statistics

2003-2004

Public water supplies – 8 billion gallons

Bottled water – 450 million gallons

Irrigation – 350 million gallons

Snowmaking – 250 million gallons

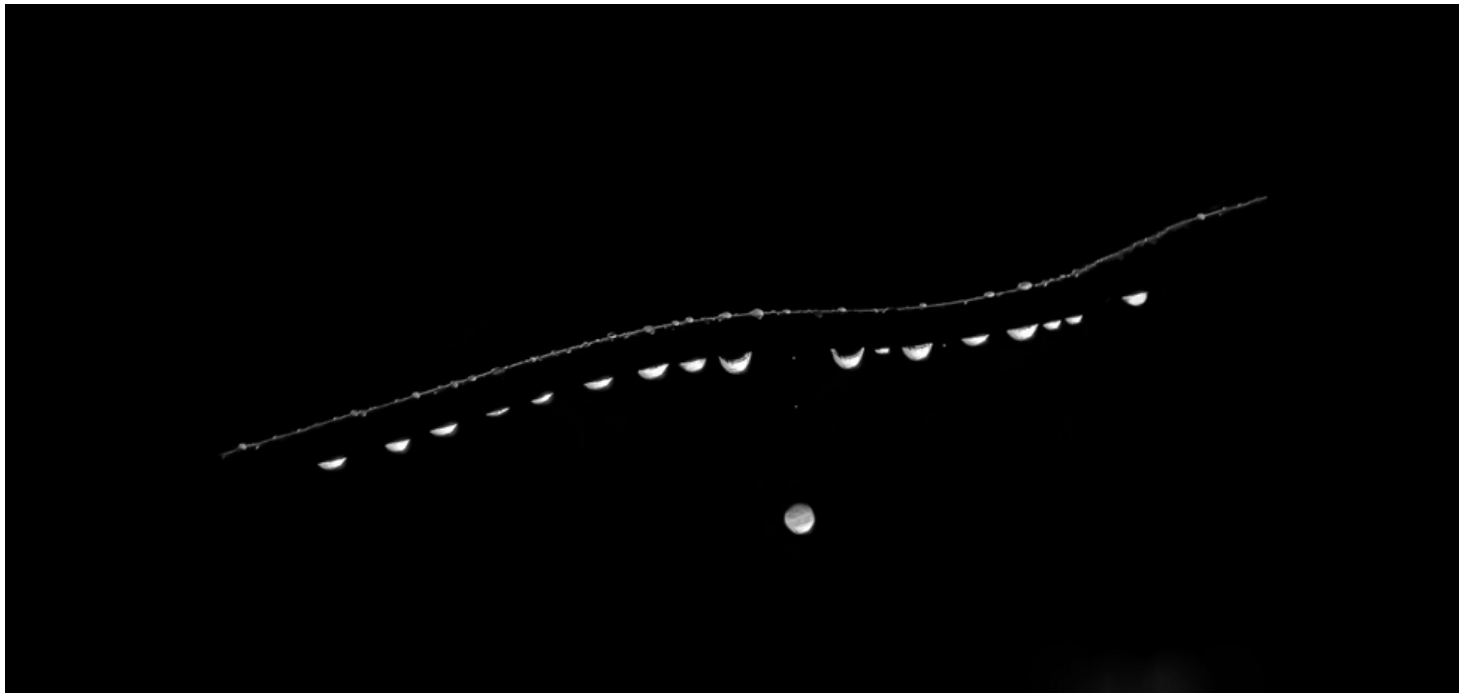


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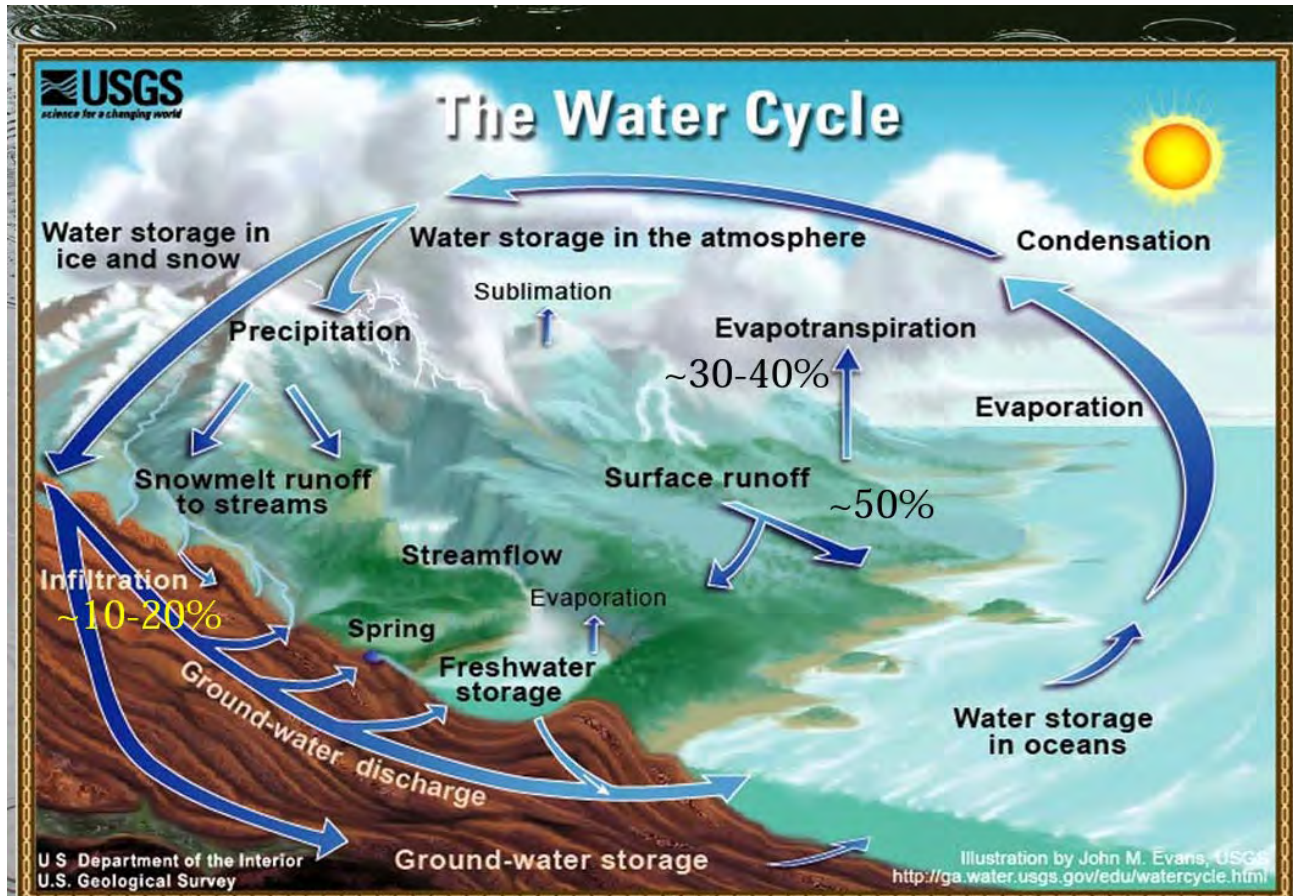
- Keeping drugs/pharmaceuticals out of surface waters
 - Ponds, lakes, streams, rivers, coastal waters
 - Impacts to fisheries and the aquatic ecosystem
 - Commercial and tourism
 - Local consumption



Maine's waters are connected

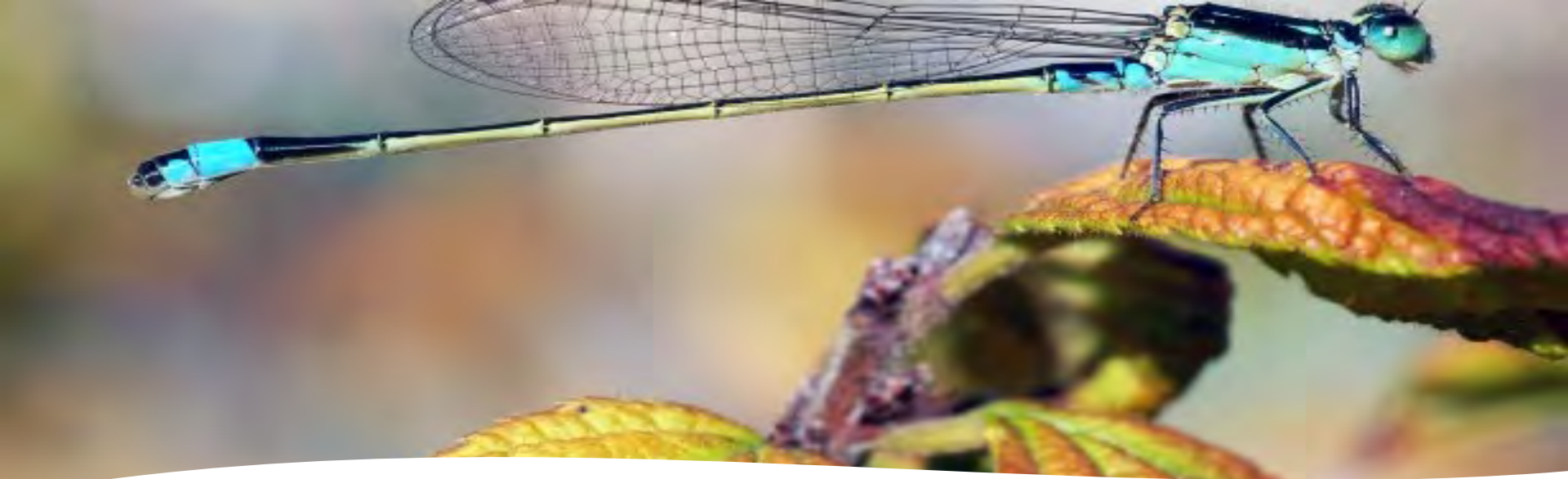


Maine's Water Cycle



Damselfly





Damselfly and the trophic web

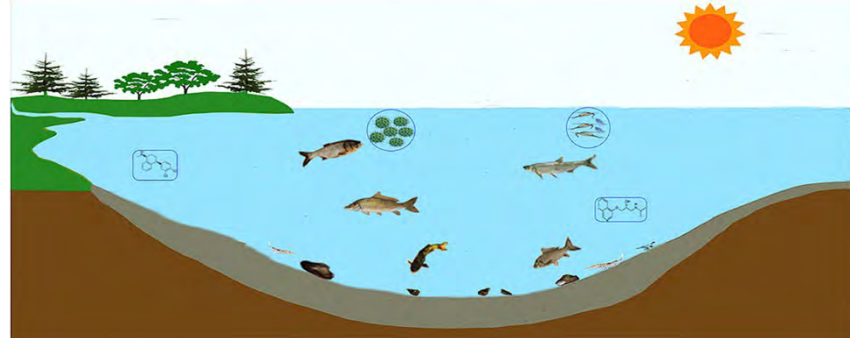
- Critical food source for trout/fish
- Impacts of antihistamines and effects
- Aquatic insects (including damselfly and dragonfly nymphs) use histamines as neurotransmitters
- United States Geological Service (USGS) and other studies have found antihistamines in streams and surface waters
- Impacts to the local aquatic ecosystem



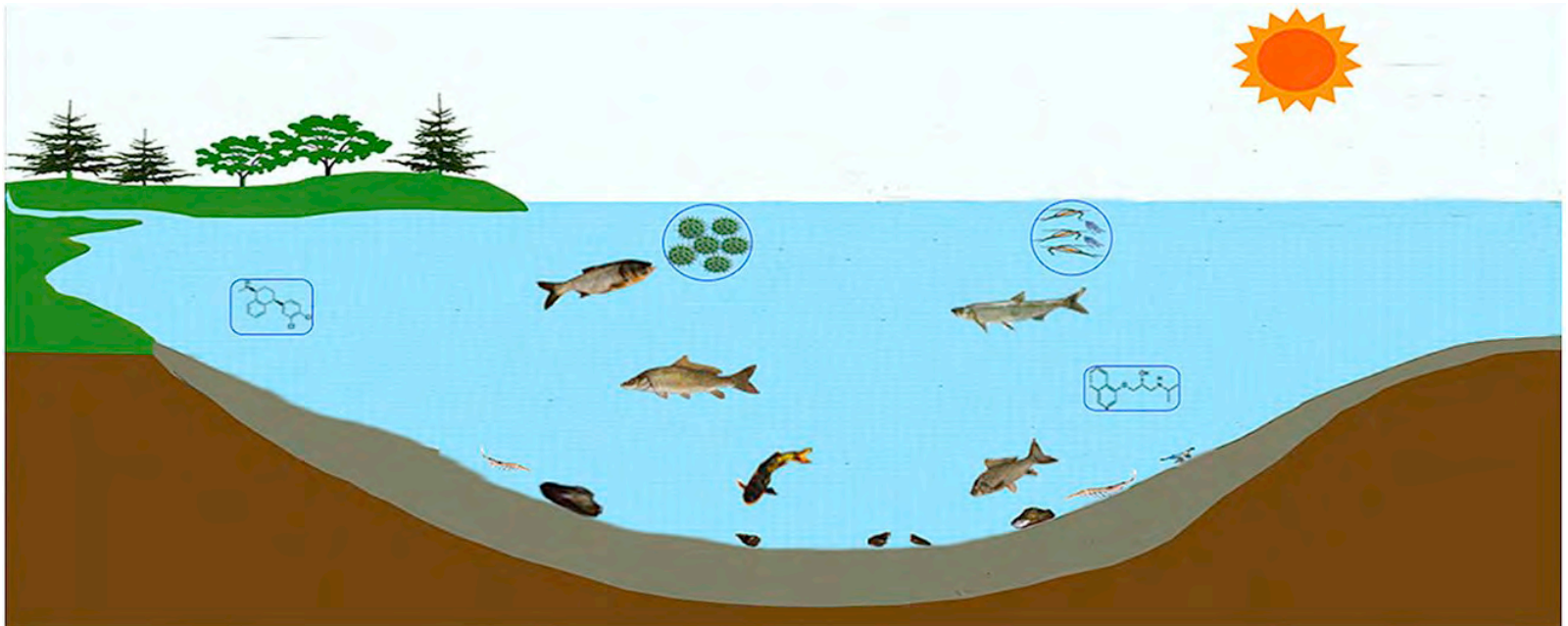


Aquatic ecosystems and bioaccumulation

- Phytoplankton (lipids)
- Zooplankton
- Ichthyoplankton
- Zoobenthos
- Invertebrates
- Fish
- Mammals



Bioaccumulation



API Impacts

- Endocrine disrupters
- Fluoxetine (Prozac)- most common antidepressant
 - Can induce neurotoxicity, genetic, and biochemical changes in fish
 - Can alter behavior of aquatic life
- Antibiotics
- Synergies and cumulative effects of drugs in the aquatic ecosystem



API Impacts Synergy

- Legacy aquatic contaminants (Ex: DDT, PCBs, Hg, Pb)
- Chemical Production has increased 50 fold since 1950*
- Expected to triple again by 2050*
- More than 3000 compounds used in Pharmaceutical production

*EEA 2018



Protection for Maine's waters

- Maine's dependence on healthy aquatic ecosystems
 - Commercial fisheries
 - Recreational fisheries
 - Tourism
 - Local consumption of fish, shellfish, and waterfowl, game and native birds and mammals



Stewardship Organizations

- Kiosks
- Prepaid mail-back envelopes
- Drugs transported and incinerated in safe method
- Approved outreach program, including web site



Education and Outreach

- Stewardship programs are responsible for developing education and outreach materials. Must include:
 - Publicly accessible website
 - Signage at collection locations
 - Brochures for distribution to consumers at time of purchase



Performance Goals

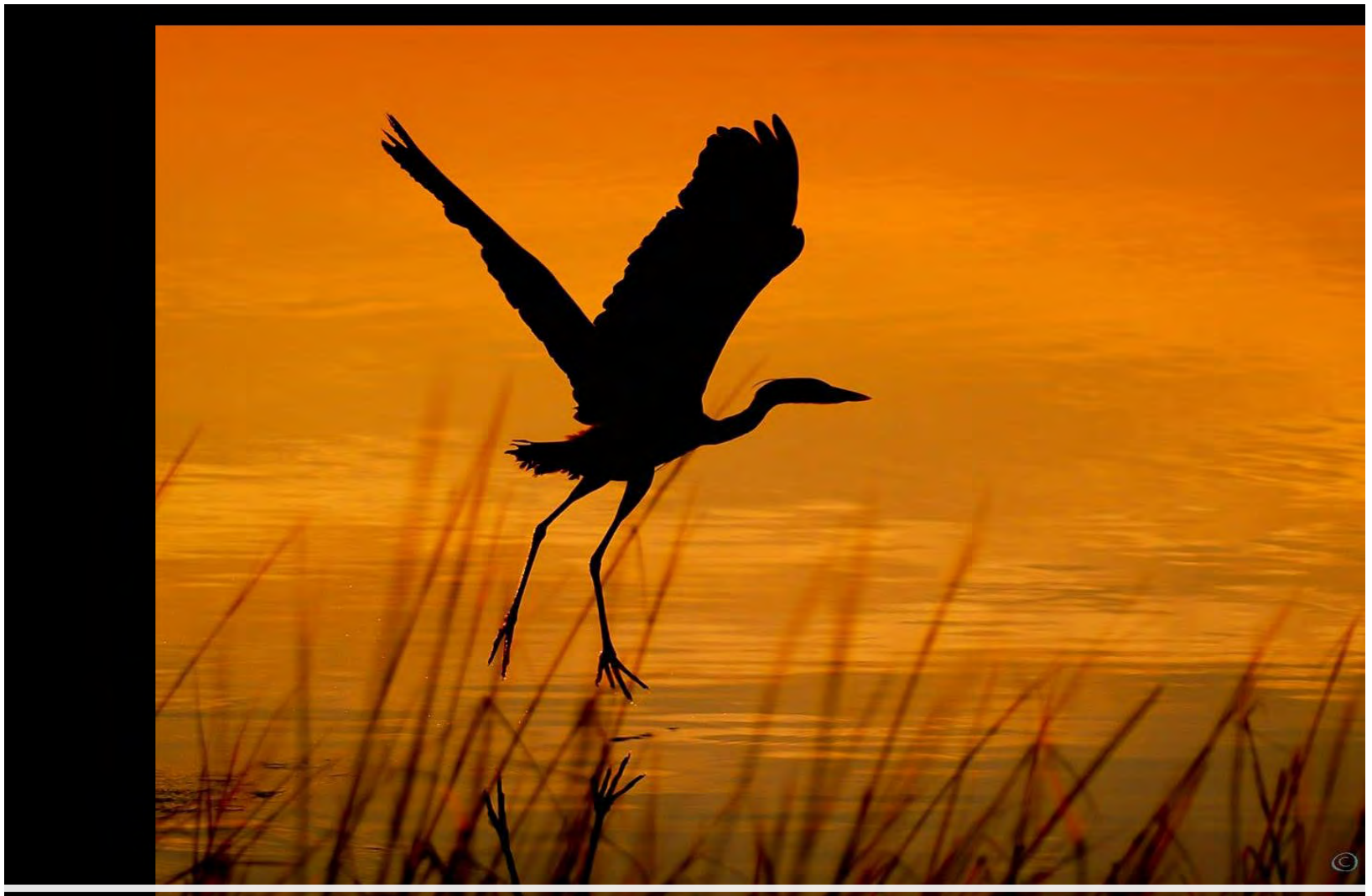
- Education and outreach-consistent message
- Awareness of the program by 60% of residents after one year
- 70% after two years
- 75% after 4 years



When does the law go into effect?

- June 18, 2023
 - Stewardship Organizations up and running
 - State website populated and live
 - Stewardship websites up and running, 10-day updates for changes in locations





Questions?





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