

NATURE IN YOUR NEIGHBOURHOOD

1. Pollinator Gardens
2. Butterfly Rearing
3. Funding
4. Next Steps
5. Resources





- Create habitat, not aesthetics
- Educational goals

POLLINATOR GARDENS

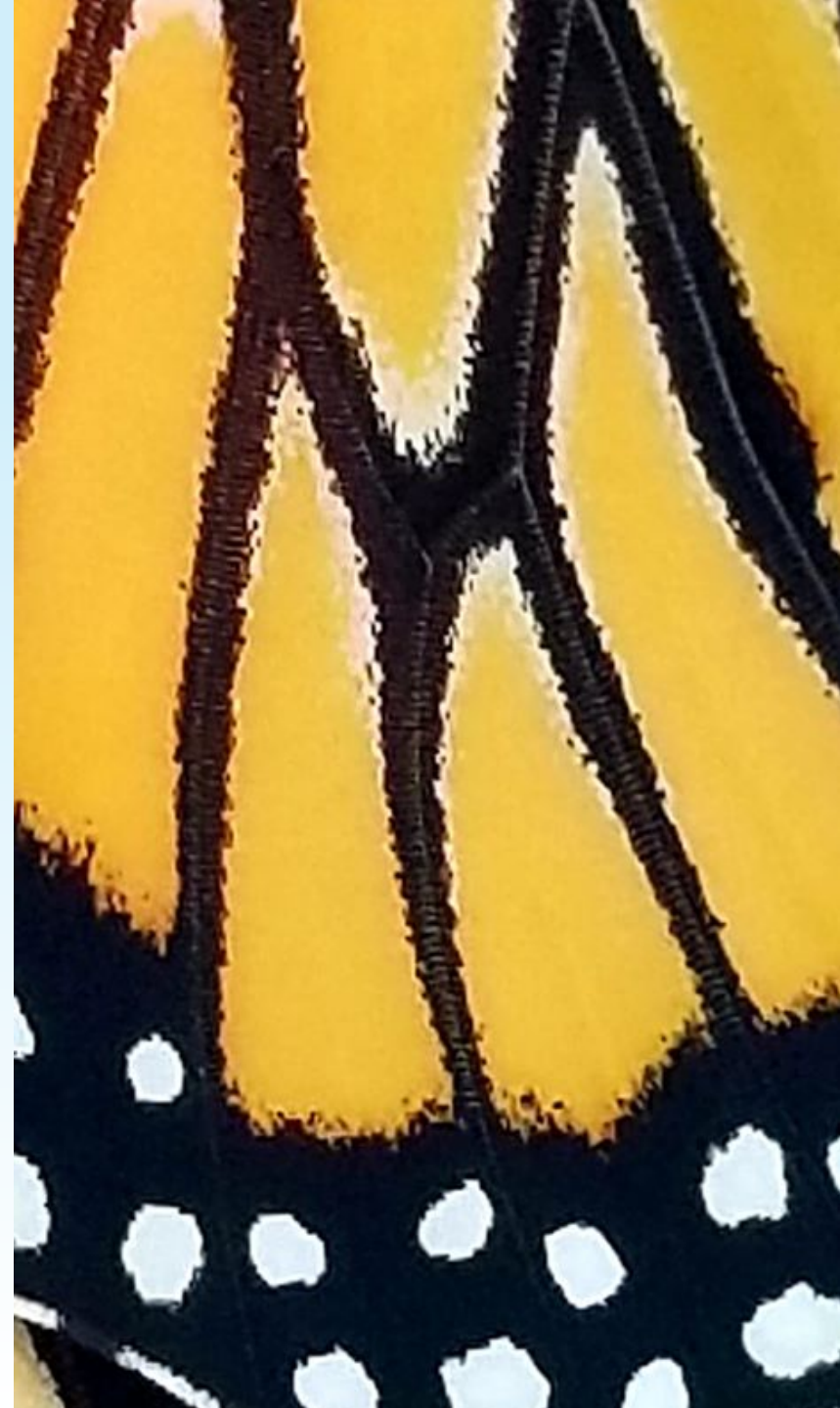
- Pesticide-free environment
- Plant selection
 - Native species, host plants
 - Bloom times
- Access from building
- Maintenance – volunteers!
- Cover

PLANTING CONSIDERATIONS



1. Impact
2. Monarch Butterfly Life Cycle
3. How To
4. Staffing Training & Involvement
5. Citizen Science
6. Communication
7. Ethics
8. Partners

BUTTERFLIES



- Monarch butterflies are a symbol for species in crisis
- 80% decrease in Eastern population over last 20 years
- Inspire curiosity and learning
- Demonstrate importance of conservation
- Engaged with 750-1000 visitors

IMPACT





- Arrive in Ontario in May
- Four generations per year
- Final generation migrates (late August-October)

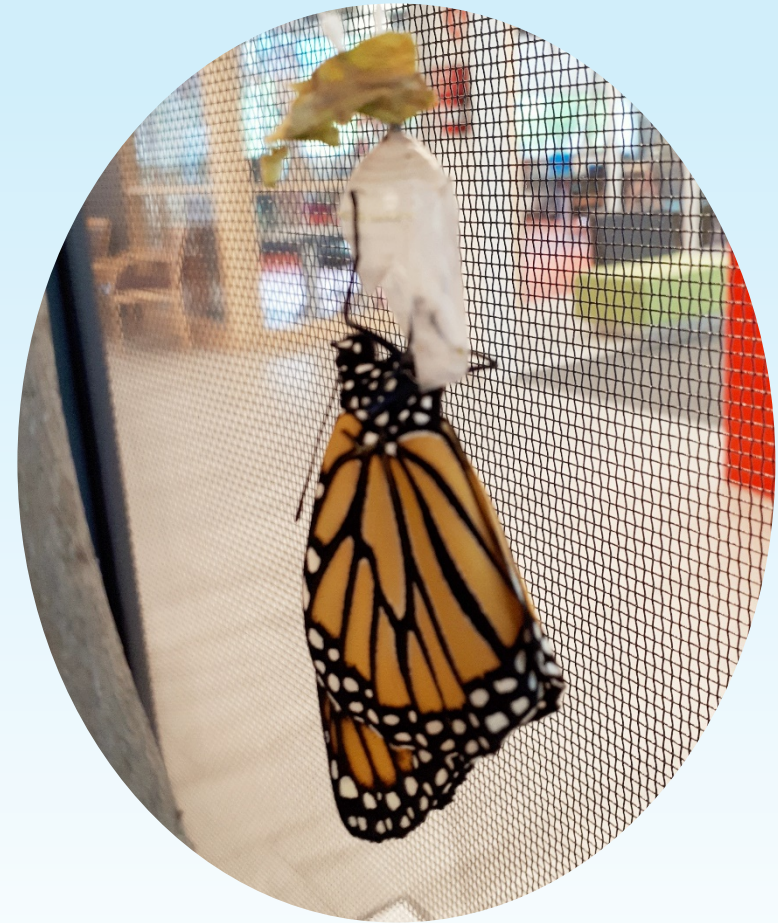
LIFE CYCLE

Holli – The Beautiful Monarch (FB)



LIFE CYCLE

Teri – The Beautiful Monarch (FB)





Most important, engaging
thing you can do!

Register as a Monarch Waystation

CREATE HABITAT

Specially Protected Invertebrate under the Fish and Wildlife Conservation Act (FWCA)

Species of Special Concern under the Endangered Species Act (ESA)

- Apply to Ministry of Natural Resources
- OR register site under Monarch Teacher Training Network
 - After completing training program
 - Limit of 20 butterflies per year

PERMIT





- ***No captive-bred eggs/cats***
- Wild collected eggs or caterpillars
- Handling and maintenance protocols
- Cage location:
 - Natural light conditions
 - Temperature control
- Separate cages:
 - Different instars
 - Eclosing cage

REARING



Monarch Butterfly Life Cycle



Eggs

The egg is only 1-3mm wide, and hatches after 4 days.



Caterpillars

Caterpillars are the larval phase of the Monarch butterfly, and are called larva. They go through five stages, called "instars", and shed their skin after each one.

Picky Eaters!
The caterpillars can only eat one thing: milkweed plants!



Day 1



Instar 1	Instar 2	Instar 3	Instar 4	Instar 5
2-6mm	6-9mm	10-14mm	13-25mm	25-45mm

Day 15

Metamorphosis



You can tell a caterpillar is going to shed its skin and form a chrysalis when it hangs in a "J" shape. It will hang for about 18 hours. The change from caterpillar to chrysalis takes less than 1 hour.



The metamorphosis inside the chrysalis takes 8-10 days. Near the end, the chrysalis becomes transparent, and you can see the wings of the butterfly inside.



The monarch emerges from the chrysalis (ecloses) after 8-10 days, and expands its wings within a few minutes. It takes about another hour for the wings to dry, then it's ready to fly!



Monarch butterflies eat nectar from flowers, and live for 2-6 weeks in the summer. Butterflies born in September and October live for up to 8 months! They migrate to Mexico where they spend the winter, but it is their offspring that migrate to Canada in the spring.

WANT TO KNOW MORE ABOUT MONARCH BUTTERFLIES? ASK A STAFF MEMBER TODAY!

Visit our Pollinator Garden

more outside

- Wash hands before & after
- Clean cage daily
- Do not handle caterpillars
- Replace milkweed regularly
- Move chrysalids if needed
- Wash cage between generations

MAINTENANCE





Types:

- Common, swamp, whorled, butterfly plant, tropicals

Sourcing:

- Nurseries-Pesticide Free
- Roadside, Parks, Customers
- Avoid locations near farm fields

Washing:

- Eggs, milkweed

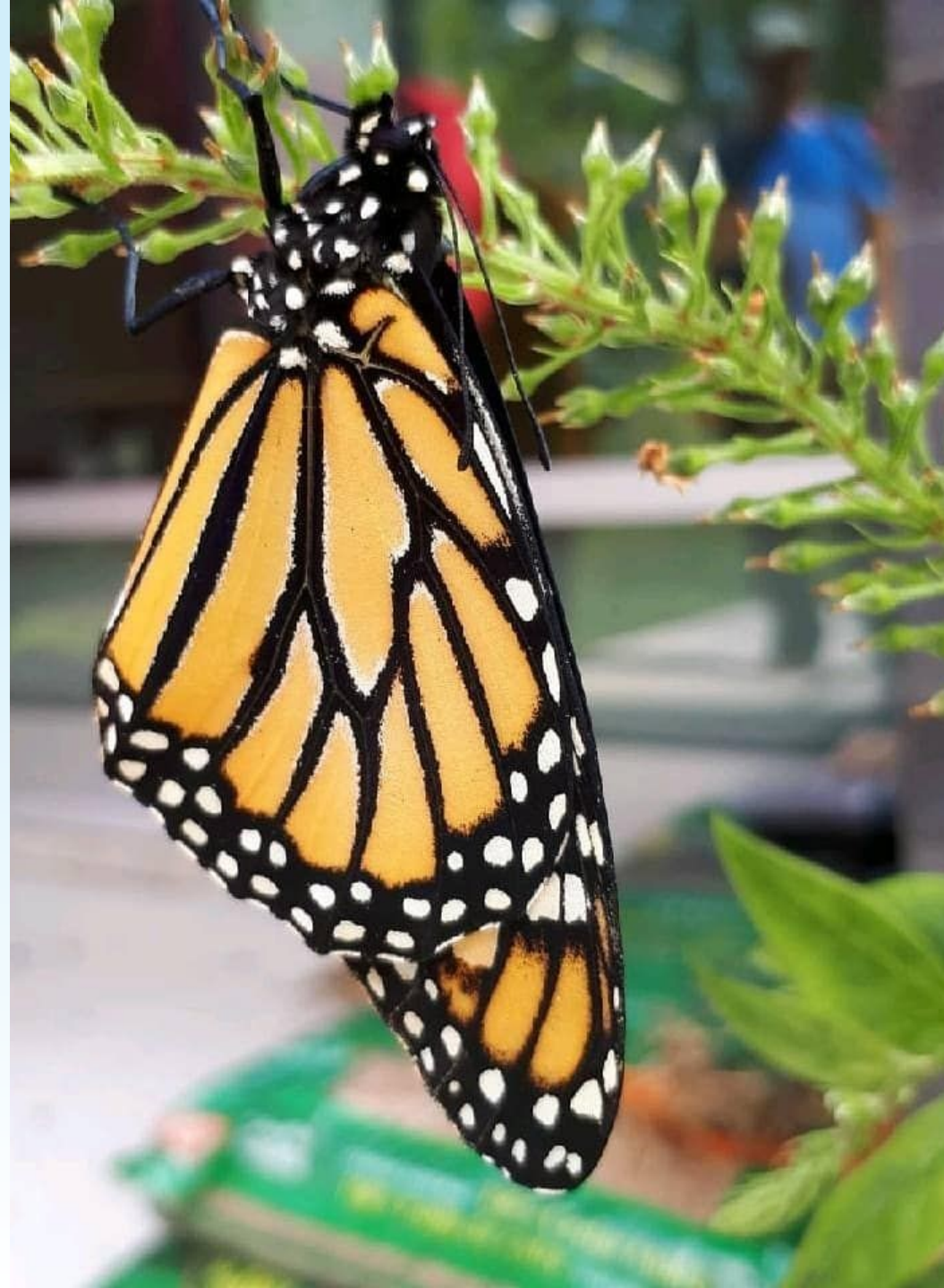
Safe Handling Procedure:

- Sap is hazardous

MILKWEED

- Monitor health of all stages
- Euthanasia
- Do not transport
- Keep track of dates
- Plan for closed days

HEALTH





- At same site collected
- 4 to 24 hours after eclosing
- Morning
- Good weather

RELEASES



RELEASES



- Monarch Teacher Training Network
- Handling
- Maintenance
- Releases
- Protocols
- Accurate information
- Stay informed

TRAINING & ED.

Project Monarch Watch Tagging program

Project Monarch Health

CITIZEN SCIENCE





- Staff: your best advocates
- Social media
- Giveaways: stickers, shirts, seeds
- Photos, photos, photos
- Didactics

COMMUNICATION

- Animal handling
- Conservation: the big picture
- Euthanasia
- Transparency
- Informs communications

ETHICS





- Seed Library
- Municipality
- Conservation Authority
- Garden Clubs
- Local Experts

COMMUNITY PARTNERS

Training:	\$100 per person
Iguana cage:	\$100
Insect cube:	\$18
Eclosing cage:	\$20-\$40
Cleaning supplies:	\$30
	App. \$300

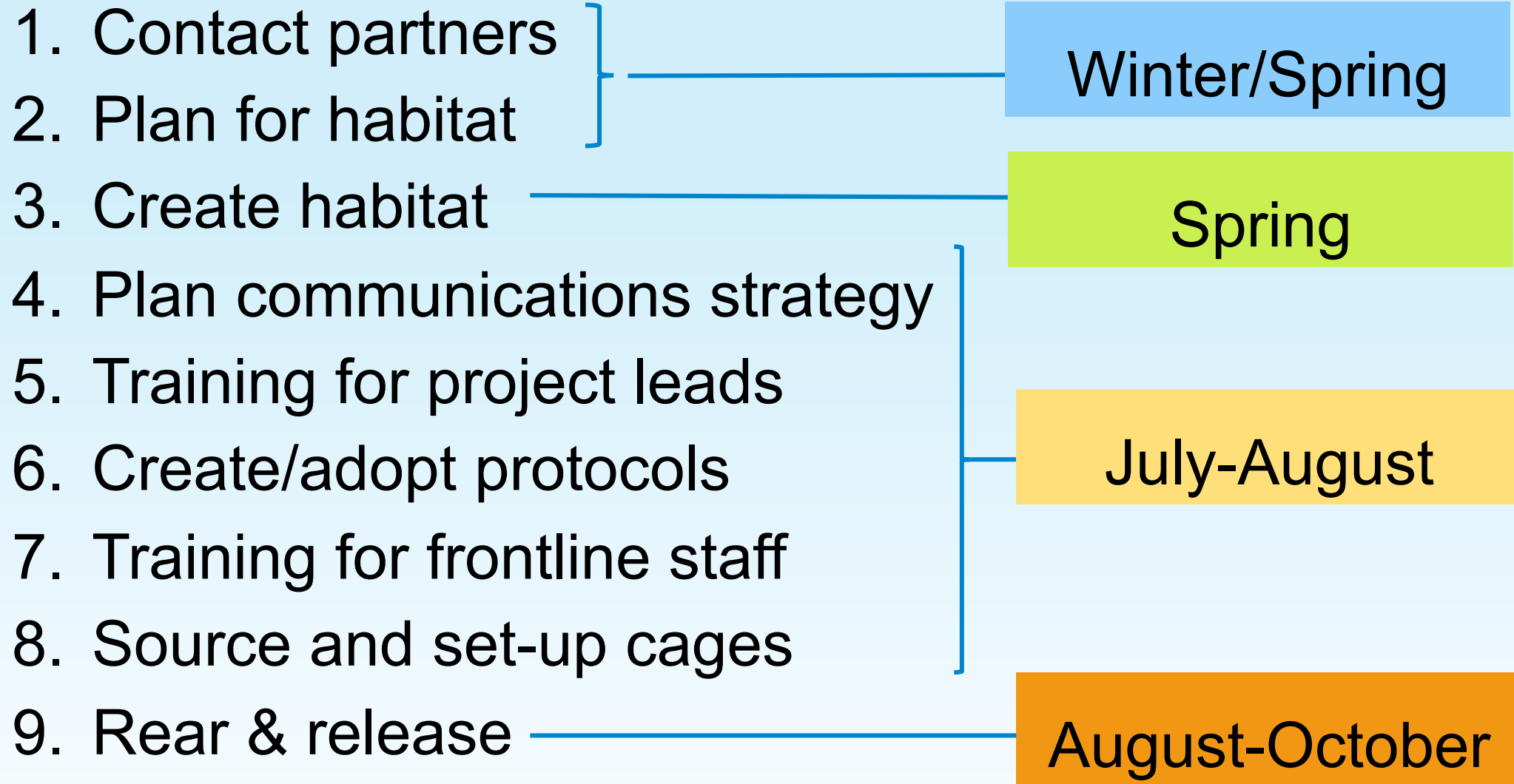
Tags: \$25-\$125

Promotional materials: \$300

Waystation registration: \$16-\$33USD

COSTS





YEAR 1 ROADMAP



- Facility maintenance budget
- Corporate sponsorship
- Local conservation authority
- Local service clubs
- Grants:
 - [TD Friends of the Environment](#)
 - [WWF Go Wild Community Grants](#)
 - [McLean Foundation](#)
 - [Gosling Foundation](#)
 - [Eco Action Fund](#) (Federal Gov.)

FUNDING

Gardens

[Monarch Waystation Network](#)

[Pollinator Garden Guide \(TRCA\)](#)

[Native Plants for Pollinators \(CVC\)](#)

[Pollinator Partnership](#)

Citizen Science

[Government of Canada Citizen Science Portal](#)

[SciStarter](#)

Monarch Butterflies

[Monarch Teacher Network](#)

[Monarch Joint Venture](#)

[Pollinator Partnership Planting Guides](#)

[Journey North](#)

[Monarch Watch](#)

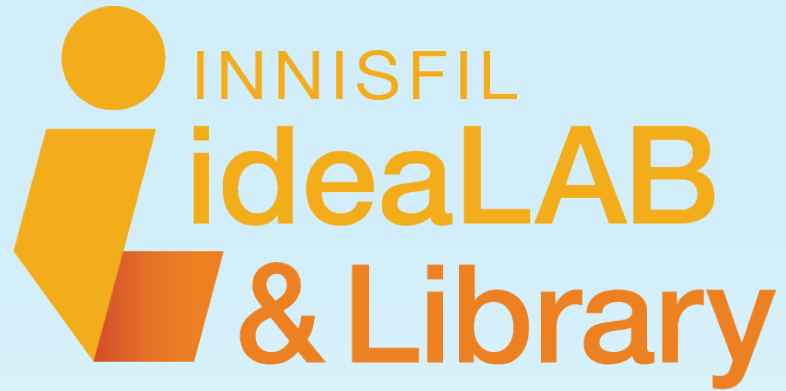
[Monarch Waystation Network](#)

[The Beautiful Monarch](#) (FB Group)

Study:

[Captive-Reared Monarch Butterflies Show Natural Orientation When Released in the Wild](#)

RESOURCES



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The Future. Starts Now.